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1 What is Lights-Out?

Lights-Out is a management solution which helps you saving energy, managing your backups, your computers and your network.

For whom is Lights-Out conceived?

Lights-Out is intended for home users who run a server or a computer used as a server, as well as for small and medium-sized enterprises that run one or more servers and computers.

The focus is somewhat different, but the boundaries are fluid.

If you are a home user read what Lights-Out can do For Home Users.

If you work in a business, read what Lights-Out can do For Small Business Users.

The big picture

Lights-Out is based on several building blocks:

1. A service which is installed on the server or a desktop system used as server. This is the core component (the green Sample Server in the picture). The management console and the client software are connected to that service.
2. A management console which is installed on the server and optionally on any system used to manage Lights-Out.
3. A client software or agent installed on Microsoft Windows or Apple Macintosh computers (the blue devices in the picture). These devices may operate inside your network (LAN) or outside over the internet (WAN).
4. An optional mobile app for smart phones or tablets (the blue devices in the picture). These devices may operate inside your network (LAN) or outside over the internet (WAN).
Components 1. - 3. are part of the installer for the server. The mobile app is a separate component and is available for all major systems (Android, iOS, Windows 8-10, Windows Phone 8-10).

**Licensing**

You can evaluate Lights-Out for a period of 30 days. When the evaluation period has expired, Lights-Out will revert to a Community Edition mode. In this mode, Lights-Out is free for **personal use only**.

To use the full functionality after 30 days, a license is required. A license may be purchased at any time during or after the 30 days evaluation period. The purchase of a license entitles you to activate Lights-Out on the number of licensed servers.

The purchase of a license includes **1 year support and maintenance** which will cover all updates to Lights-Out published during that period. Support and maintenance can be extended annually.

**Contact and Support**

**Publisher**

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1.1 For Home Users

At home, you typically control your computers and switch them off if not in use. The server however may run headless (without monitor and keyboard) or is located in a separate room.

It is tedious to switch the server on or off if not in use.

The focus for Lights-Out home users is therefore on the server.

Lights-Out guarantees that you run your server on demand to minimize energy consumption without losing comfort. Lights-Out monitors a wide range of sources for activity to decide if the server is still required to run. If no source reports any activity, the server is switched off or put into standby to save energy.

As soon as you start one of your computers, Lights-Out starts the server automatically.

Backup

Serious users who run a regular backup are assisted by Lights-Out. Lights-Out can schedule backups and monitor backup software of different vendors. For a list of supported programs read the section Backup Provider.

Lights-Out supports backup on your server and on your client computers. Lights-Out can wake a server or client computer at a fixed schedule to run backups.
1.2 For Small Business Users

In a business environment, servers are typically operated 24/7 without interruption. Desktop computers however may be used by different employees and may still be running after the end of work.

It is tedious to switch all computers on in the morning and off after the end of work.

The focus for Lights-Out business users is therefore on the computers

Lights-Out guarantees that you run your computers on demand to minimize energy consumption without losing comfort.

Lights-Out can, for example, start your computers in the morning 15 minutes ahead of your working hours. This allows time to complete Windows Updates before your employees arrive at work.

Lights-Out can put the computer into standby to save energy and money if not used for a certain time.

A computer which shares a printer for several people can be controlled by Lights-Out to run during your working hours.

Computers in departments or locations with different operating times can be assigned to a group. Lights-Out can manage multiple (different) groups.

Backup

Serious users who run a regular backup are assisted by Lights-Out. Lights-Out can schedule backups and monitor backup software of different vendors. For a list of supported programs read the section Backup Provider.

Lights-Out supports backup on your server and on your client computers. Lights-Out can wake a server or client computer at a fixed schedule to run backups.
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To use the full functionality after 30 days, a license is required. A license may be purchased at any time during or after the 30 days evaluation period. The purchase of a license entitles you to activate Lights-Out on the number of licensed servers.

The purchase of a license includes 1 year support and maintenance which will cover all updates to Lights-Out published during that period. Support and maintenance can be extended annually.

Feature Matrix

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<td>Use</td>
<td>Private, personal use</td>
<td>Private or non commercial use</td>
<td>Private or non commercial use</td>
<td>Business use or commercial organization</td>
</tr>
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<td>Forum (ticket system if under maintenance)</td>
<td>Forum (ticket system if under maintenance)</td>
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<td>Server and computers</td>
<td>Server, computers and 2 groups</td>
<td>Server, computers and unlimited groups</td>
</tr>
<tr>
<td>Licensed servers</td>
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<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
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In English only on Home Server Blog Forum, Lights-Out English Support. To register please use this Registration Link (English)

If you have a valid license with maintenance and support, you should open a support ticket.
2 What’s New In Version 3

This is a brief list of the new features of version 3.0.

Server

- New: Support for Synology NAS devices
- New: Monitor web page access to detect device activity
- New: Resolve mac address to vendor

Backup Provider

- New: Acronis True Image 2019 (both Windows and macOS)
- New: Time Machine (macOS)
- New: Carbon Copy Cloner (macOS)
- New: UrBackup (all, Windows, macOS, Linux)
- New: Hyper Backup (Synology)
- New: Active Backup For Business (Synology for Windows)

Console/Dashboard

- New: Automatic server detection and certificate installation
- New: Column for mac vendor in network tab
- New: Support for client access via TeamViewer, Remote Desktop or Browser
- New: Download log files
- New: Disable client power management actions based on hardware or manually
- Improved: Double click on column border creates best fit

Client Software

- New: macOS Client software
- New: Linux Client software
- New: It’s now possible to change the active backup provider in the context menu
- New: You can now wake-up other client computers
- New: You can manage your server via Lights-Out Console, RDP, TeamViewer and Web browser
2.1 What's New In Version 2.5?

This is a brief list of the new features of version 2.5.

User Interface

2.1.1 Automatic login (Console)

Users who manage only one server can now bypass the login dialog by selecting the new option "Automatically log in" (1). Clicking Sign out (2) (bottom left) displays the dialog again if necessary.

2.1.2 Console update

If the console detects a newer version on the server (1), a semi-automatic update is offered. Semi-automatic means that after clicking on OK (2) the download runs automatically in the background and then the installation is started interactively. The user then has to perform the installation manually.

2.1.3 Details pane for computers and devices (Console)

For computers and devices, details about the selected item appear in the lower half. The pane can be resized or faded.
in / out by clicking on the top border.

2.1.4 Blog posts (Dashboard and Console)

The status pane displays the last 4-8 posts (depending on size). Clicking on the blue title bar opens the browser with the selected entry.

2.1.5 Confirmations (Dashboard and Console)

All delete operations in calendar, computers or devices must now be confirmed. The same is true for saving energy, shutting down, or restarting client computers.
2.1.6 Display of the action to be executed (Dashboard and Console)

Previously, there was no feedback when a client action such as "save energy" was triggered. With version 2.5, all pending actions are visualized by the server and the clients. In the example, the client computer w10pro performs a "save energy" action in 50s:

![Image of Windows Computers list with w10pro highlighted]

2.1.7 Default action after backup (Dashboard and Console)

In the computer properties, there is a new setting for the default action after backup. Execution can now be limited to the local network and a running server. This may be useful for mobile devices (notebooks) e.g. on vacation. An unsuccessful backup then no longer triggers the end action unexpectedly.
Software Updates

Previously, new software versions appeared in the console or dashboard on the status page and appeared as notification in the client software. For some users who only occasionally launch the console or dashboard, that was not enough information. Others found the client notifications annoying. Therefore, Lights-Out 2.5 allows finer control over the handling of new software versions.

2.1.8 Settings for Updates

Open the settings in the console or in the dashboard and if necessary, scroll to the right using the two small arrows in the upper right corner. There is the new tab Updates.
Update channel

Here you select which software version you want to use. For most users the selection **Stable** (production) is the right one. These are officially released software versions. Users, who participates in a beta test or run a beta version, should choose beta as the update channel to get a newer test version. Alpha versions should only be used on a test computer, as problems can be expected here.

Update modes

Here you determine how you want to handle software updates in the future.

For more information on the new update features have a look at the update settings documentation and automatic updates.

Handling of Away Mode

2.1.9 What is Away Mode?

Away mode was introduced by Microsoft for media center applications. Media center software can run TV recordings when the computer seems to be off. Technically, away mode does two things:

- It turns off the screen (as in real energy saving)
- It then blocks energy saving by the user or any other program

Backup programs or down loader software also uses away mode to prevent energy savings.

Unfortunately, as a result, even with Lights-Out, energy-saving fails and then degenerates into a series of failed attempts.

2.1.10 Monitoring of power requests is enabled in Lights-Out
If you have used this setting, you are not affected by the above problem. Lights-Out recognizes that other software blocks energy saving and considers it as activity.

⚠️ Problem: Lights-Out does not even start to save energy and thus prohibits the possibility of ending such software (e.g. by stopping a service from inside of Lights-Out).

### 2.1.11 Monitoring of power requests is disabled in Lights-Out

If you don’t use monitoring of power requests and use a downloader software (which activates away mode), you could run into the problem described above with a continuously failing standby.

### 2.1.12 What’s changing in Lights-Out 2.5?

With Lights-Out 2.5, after stopping the services, away mode is checked immediately before triggering energy saving. If monitoring of power requests is off, it will now be activated and displayed as an error (in orange). Monitoring power requests remains active as long as Lights-Out detects away mode.

In the first (left) screenshot you can see the initial situation, Lights-Out starts energy saving in a few minutes, as none of the 9 sources report any activity (1). This fails because of a program that has activated away mode and thus the situation in the second (right) screen shot arises. There are now 10 monitored sources and "power requests of other software" is reported as problem (2).

If this other program is terminated or away mode is canceled, Lights-Out automatically returns to the initial situation in the first (left) screenshot.
New client deployment methods

Lights-Out 2.5 now supports 3 methods for software installation or distribution to client computers.

1. Downloading from internal website with manual installation (already exists)
2. Creating a pre-configured installation package for user installation (new in 2.5)
3. Using Direct deploy in Active Directory (new in 2.5)

Open Client Installation (Overview) for a detailed description and comparison of the new methods.

Bug fixes

Lights-Out 2.5 includes bug fixes for reported issues, have a look at the release notes for more information.
2.2 What's New In Version 2.0?

This is a brief list of the new features of version 2.0.

**General**
- Unified *license*, no longer bound to a specific platform
- Unified *installer*, one setup for all supported platforms

**Supported platforms**
- For a full list of supported systems please look at the requirements

**Calendar**
- Completely redesigned *calendar* module with support for complex *recurring* rules
- Supports client computer schedules
- Supports *calendar groups* applied to multiple computers

**Dashboard and Console**
- Fully integrated into Windows Server Essentials or Home Server *Dashboard* and remote web access
- A separate *Management Console* can be installed on any client computer to manage Lights-Out
- Management Console can manage *multiple Lights-Out servers*
- Management Console can manage Lights-Out servers over the Internet (remote)
- Lights-Out 2 can *send a notification* message to your computers

**Client Computers**
- Client computers can *connect via Internet* (remote)
- Client computers can be *controlled by Lights-Out calendar*

**Backup**
- Lights-Out 2 supports *backup monitoring* on client and server to give you a centralized view and management
- Lights-Out 2 can schedule backups for client and server
- Lights-Out 2 *supports many backup providers* out of the box

**Monitoring**
- New sources: *power requests from other software, user activity on server* etc.
- *Backup* on client computers and server

**Network devices**
- Automatic detection of all network devices in your LAN
2.3 Release Notes

Version 3.0.1 Build 4433, published May 9, 2019

2.3.1 Bugs fixed

#780958 Renaming IP device does not work (Console/Dashboard)
#780958 Manually added device does not update first detected/last seen fields (Console/Dashboard)
#772784 High DPI scaling in Dashboard addin is broken (Dashboard)
#515468 Remote web gadget does not load (WHS, Essentials)
Fixed forum links in about dialogs (Console, Client software)
Fixed away mode detection for user action (Windows Server service)
Fixed outdated SSL certificates (Windows server service runs SSL Configuration --update every 24h)

Version 3.0 Build 4424, published May 3, 2019

2.3.2 Changes since RC

Fixed black hole (client window is black if Windows tablet mode is switched on/off)
Fixed Windows Server Backup on WHS/Essentials (no more multiple running backups)
Fixed high CPU load during scan of class B networks

Version 3.0 Release Candidate, Build 4401, published April 12, 2019

2.3.3 Changes since Beta 1

Download page reordered (management console moved up)
Warning for missing backups increased to 8 days
UrBackp backup provider improved
Synology Quick Connect detection added
Connection via browser to external server improved
Support for Mono 5.18 on DSM added
169.254.x.x networks are treated as disconnected
Fixed missing icons on download page
Fixed multiple ip addresses in connection via browser
Fixed unused LAN port on DiskStation with 2 or more LAN ports
Fixed service crash if old Lights-Out 1 license was loaded
Fixed missing entries in Settings->Action if Console is connected to remote server
Fixed Direct Deploy for Windows clients
Fixed wrong user activity in runtime diagram
Fixed timer based wake-up if server and client are installed on the same machine

Known issues

- On macOS Mojave, TimeMachine Backups have an unknown result due to security limitations
- On macOS, Acronis True Image does not return a backup result
- On Linux clients, standby blocking is not yet working

Version 3.0 Beta 1, Build 4364, published March 12, 2019

Known issues

- On macOS Mojave, TimeMachine Backups have an unknown result due to security limitations
- On macOS, Acronis True Image does not return a backup result
- On Linux clients, standby blocking is not yet working

Version 2.5.4 Build 3951 published May 6, 2019

2.3.4 Bugs fixed

Prevents automatic update to version 3 if maintenance has already expired.
Version 2.5.3 Build 3950 published March 12, 2019

2.3.5 Bugs fixed

#100950 Client command line does report wrong server state
Fixed extend maintenance dialog
Fixed first seen time stamp
Fixed wake-up reason
Improved security for unauthenticated access

Version 2.5.2 Build 3942 published December 18, 2018

2.3.6 Bugs fixed

#764356, Timer removed after Standby
#466884 Fixed Console does no longer show recorded events
#638492 Fixed unreliable wake-ups (tasks missed)
#550438 Improved backup history (missing backups results)
Fixed parameter "-update" for LightsOut2.Server.SSL application
Fixed bug with downloading updates
Improved handling of forced action after backup
Added workaround for duplicate SID on client machines
Added support for Acronis TrueImage 2019

Version 2.5.1 Build 3902 published July 6, 2018

2.3.7 Bugs fixed

#354962 Fixed failing login after server rename or domain join
#200111 Fixed scaling issues in Remote Desktop from High DPI system to server
#491426 Fixed client installer warning "RemoteRegistry Service not running"
#252270 Fixed inner forced calendar task with same action (was ignored)
Fixed Direct Deploy error "can’t create config file"
Fixed some dialogs with truncated translations Fixed Console crash if settings file is damaged

Changed behavior for client action after backup: If there was user activity within the last 10 minutes, the action is ignored unless forced by a calendar entry.

Version 2.5.0 Build 3812 published Dec 27, 2017

2.3.8 New features

Added official support for Acronis TrueImage 2018.
Added confirmation dialog for delete operations.
Added RSS feed display to status pane.
Added console auto login checkbox.
Added console update.
Added local and remote server update.
Added automatic updates.
Added different update channels.
Added console device details pane.
Added AD client deployment.
Added setup package creation for easier deployment.
Added better handling of damaged user settings.
Sleep now is using standard action first.
Updated forum link and name.

2.3.9 Bugs fixed

#280112 Non-monitored network device is not displayed in dashed style.
#239807 First damaged json file stops reading of all devices.
#885307 Exit code detection wrong for Acronis TrueImage 2017 after upgrade from previous version.
#259153 Client ui scaling on high dpi display.
Remote web access rights are not applied.
Scheduled backup missing after slow cold boot.
AWAYMODE not detected and prevents Standby.
Client action timer not detecting starting backup during count down.
Wrong server runtime chart if suspend initiated outside of Lights-Out.
Disabled setting no longer working after reboot.
Inner forced calendar action uses outer forced action.
Save energy is using the configured standard action if set to standby or hibernation.
Added new option "execute end action only if local server is online".
Added workaround for loading license file on a server core installation without UI.
Disabled setting no longer working after reboot.
Inner forced calendar action uses outer forced action.
Schedule backup missing after slow cold boot.
AWAYMODE not detected and prevents Standby.
Client action timer not detecting starting backup during count down.
Wrong server runtime chart if suspend initiated outside of Lights-Out.
 Disabled setting no longer working after reboot.
Inner forced calendar action uses outer forced action.
Save energy is using the configured standard action if set to standby or hibernation.
Added new option "execute end action only if local server is online".
Added workaround for loading license file on a server core installation without UI.

Version 2.0.3 Build 3562 published May 22, 2017

2.3.10 Bugs fixed

Fix #400421 Failed check for domain controller blocks users account detection
Fix #352695 After failed standby incomplete resume of monitoring and operation
Fix #464730 CPU load monitor not working if previously disabled
Fix #484730 CPU load monitor not working if previously disabled
Fix #484730 CPU load monitor not working if previously disabled
Fix #484730 CPU load monitor not working if previously disabled
Fix #484730 CPU load monitor not working if previously disabled
Fix Apple Mac computers missing after settings change
Fix state check of controlled services missing on service startup

#470330 Added support for Veeam Agent for Windows
Added verification for TLS 1.2 and a workaround if automatic fallback to TLS 1.1 is not working
Added name of monitored known task to runtime chart.
Improved handling of backup results in console/dashboard

Version 2.0.3 Build 3562 published May 22, 2017

2.3.11 Known issues

- If a client computer goes offline while a backup is in progress, the computer tab will show the last state until the client is online again
- The task panes in Lights-Out Management Console may each time have a different order of the commands

Version 2.0.2 Build 3535 published March 21, 2017

2.3.12 Bugs fixed

Fix #227932 Wake domain is not saved on client side.
Fix #625005 Backup wake task is not working for setting "Always on during configured backup time".
Fix #997366 Disabled time span does not count down in console.
Fix #498650 Detection of server 2016 evaluation improved.
Fix #104472 Shutdown fails on WHS 2011 if forced.
Fix #415692 Deadlock in Dashboard.
Fix #746979 Console does not store individual mac addresses for each server in MRU list.
Fix #512539 Devices are not sorted by name in uptime chart.
Fix #512539 Calendar entry changes the end date if end is on next day.
Fixed disabling monitors (ShadowCopies, TaskScheduler).
Fixed shutdown blocker in Client Software if a backup is running.
Fixed detection of storage server and server 2012 with essentials role.
Fixed action after backup in calendar if not forced.
Fixed missing backup veto.

Added a status panel in console to allow sign off to connect to another server without leaving console.
Added support for TLS 1.1 and 1.2.
Added Windows Update monitoring (experimental).
Added sorting of next calendar events in status tab.
Added HD/SSD detection to installer. If a HD is detected, service start type is set to "automatic (delayed)".
Replaced backup history handling.
Improved time to wake server after client resume/reboot.
2.3.13  Known issues

- If a client computer goes offline while a backup is in progress, the computer tab will show the last state until the client is online again
- Cleaning old backup results only works if the client is online
- The task panes in Lights-Out Management Console may each time have a different order of the commands

Version 2.0.1 Build 3396 published December 21, 2016

2.3.14  Bugs fixed

Fix #386490 Crash in Acronis detection
Fix #734008 Dashboard Crash on Essentials 2016
Fix #193857 Better handling of existing Macintosh Computers
Fix #452305 Double OK in properties dialog no longer required
Fix #854478 Japanese text does now fit on license page
Fix #971402 Improved support for Azure Cloudbackup
Fix #940804 Fixed Cloudberry localization issue and detection
Fix #840216 Recurring event not visible for New Zealand time zone
Fixed missing confirmation dialog in status - save energy
Fixed high CPU load in service created by calendar schedules
Fixed problem with user account detection if DC is not available at boot time
Fixed problem with server ID detection if DC is not available at boot time
Fixed detection of backup window change on Essentials
Fixed Dashboard crash in Essentials 2016
Fixed xcopy not working in batch files (backup scripts or user/system scripts)
Fixed Dashboard/Console reconnect failure

Added wake task for backup window on WHS/Essentials
Added support for additional mac addresses on client (for waking multiple computers)
Added a workaround if Essential 2012/2016 modules are not installed (missing) on 2012/2016 Essentials
Added wake-up via internet for console login window

2.3.15  Known issues

- If a client computer goes offline while a backup is in progress, the computer tab will show the last state until the client is online again
- Cleaning old backup results only works if the client is online
- The task panes in Lights-Out Management Console may each time have a different order of the commands

Version 2.0.0 Build 3344 published November 11, 2016

2.3.16  Known issues

- If a client computer goes offline while a backup is in progress, the computer tab will show the last state until the client is online again
- Cleaning old backup results only works if the client is online
- The task panes in Lights-Out Management Console may each time have a different order of the commands
Getting Started

If Lights-Out is new for you, we recommend to start reading our blog series "Lights-Out step by step" to get you going.

If you have already used Lights-Out 1.x, we recommend to have a look at migration and the blog series.
3.1 Blog Series Step-by-Step

If Lights-Out is uncharted territory, we recommend to read our blog series "Lights-Out step by step" to get you going:

Day 1: Server installation and migration
Day 2: SSL certificates, LAN/WAN access
Day 3: Client installation
Day 4: Managing Lights-Out
Day 5: Status tab, hidden feature Drag’n Drop
Day 6: Runtime chart
Day 7: Computers, network devices and mobile tab
Day 8: The new calendar user interface
Day 9: Using server schedules
Day 10: Using client computer schedules
Day 11: Using calendar groups
Day 12: Import calendar data from media center plug-ins
Day 13: Monitor power requests and user activity
Day 14: A first look at backup providers
Day 15: Using WHS/Essentials Client Backup
Day 16: Using Windows Server Backup
Day 17: Using Windows 7/10 Backup
Day 18: Using Microsoft Azure Backup with Lights-Out 2
Day 19: Using Acronis True Image Home
Day 20: Using Duplicati
Day 21: Using Veeam Endpoint Backup Free
Day 22: Using CloudBerry Backup with Lights-Out 2
Day 23: Using Lindenbergh Software Backup
Day 24: User defined backup scripts in Lights-Out 2
Day 25: User and system scripts in Lights-Out 2
Day 26: Mobile access with Lights-Out Mobile
Day 27: Putting it all together, Configuration samples for servers
Day 28: Configuration samples for client computers
Day 29: Licensing, Editions and Features
Day 30: Maintenance and Support
4  User Interface
4.1 Console And Dashboard

Lights-Out supports two user interfaces, the **Dashboard** and the **Lights-Out Management Console**. A Dashboard only exists on Windows Server Essentials and Windows Home Server, the Lights-Out Management Console is always available.

Both are functionally equivalent and you can use each to manage Lights-Out.

**Differences between Dashboard and Management Console**

Dashboard does not require an additional user login and always connects to the local server. The dashboard shows a detail pane in each of the device views.

The management console requires an additional user login, but can therefore also connect to different servers via the Internet. The device views do not show a detail pane.

**Dashboard Integration**

On a Windows Server Essentials or Windows Home Server, Lights-Out fully integrates into the Dashboard. There is no login necessary, because the Dashboard is running under administrative credentials and always connects to the local server.
Lights-Out Management Console

After installation on the server or a computer, you can find the management console on the desktop or in your start menu. The console can connect to different Lights-Out servers and requires a user login.

Using the user interface elements

The top level of Lights-Out shows 6 tabs, which can be changed by clicking.

Most tabs in Lights-Out show these user interface elements

1. A device list or a calendar view
2. A task pane to work with the selected element
3. A general task pane
4. An optional details view (only in Dashboard)
The different tabs

4.1.1 Status Tab

The status tab is displayed on the screen shots above and shows a couple of different summaries about Lights-Out on the server.

4.1.2 Calendar Tab

The calendar tab shows the calendar which is used to schedule certain actions for the server and the client computers.

4.1.3 Runtime Chart Tab

The runtime chart tab shows the runtime of each managed device in your network.
4.1.4 Computers Tab

The computers tab shows all connected client computers.

4.1.5 Network Devices Tab

The network devices tab shows all detected network devices in your local network.
4.1.6 Mobile Devices Tab

The mobile devices tab shows the connected mobile apps.
4.1.7 Console Login

Start Lights-Out Console, you see a login window.

The login window

On the very first start, the Lights-Out Server is already filled with the local machine name. You can override this name to connect to the desired server.

Enter your user name and a password or use the Windows session credentials to log in:
If you select Windows session credentials, the name and password fields are disabled:
You can also enter a different server name, if you access a remote server over the internet, use a FQDN and optionally append the port number. If you use the standard external Lights-Out port 7784, you can omit the port number:
4.1.8 Status

The status tab shows a couple of different summary panels about Lights-Out on the server.

For more information about each panel, open the help section about:

- Status Panel
- Calendar Panel
- Recording Panel
- Monitoring Panel
- License Panel
- Savings Panel

**Connection information**

The upper right corner shows the connected server and the user role:

```
Connected to http://s20167783/
administrator;Role=Administrator
```

If an existing connection gets disconnected, you see

```
Connection lost, trying to reconnect...
```

**Rearranging the panels with drag'n drop**

You can easily rearrange the panels with drag'n drop. Simply pick a panel on the blue header (1), drag it at the desired position (2)
and drop it. The two panels will exchange their position:
LIGHTS-OUT 3 User Manual

RECORDING

16 Event(s)
in the last 24 hours

02.11.2016 18:21  •  Resume [Power button]
02.11.2016 15:07  •  Save energy
02.11.2016 15:07  •  Initiated saving energy (standby)
02.11.2016 07:56  •  Resume [6 Windows will execute NT
TASK [Lights-Out], O2Server|ClientWake -858723537065
scheduled task that requested waking the computer.]
02.11.2016 03:29  •  Save energy
02.11.2016 03:29  •  Initiated saving energy (standby)
02.11.2016 03:08  •  Resume [6 Windows will execute "Maintenance Activator" scheduled task that
requested waking the computer.]
02.11.2016 01:03  •  Save energy
02.11.2016 01:03  •  Initiated saving energy (standby)
01.11.2016 00:00  •  Resume [5 Realtek PCIe GBE
Family Controller]
01.11.2016 00:31  •  Save energy
01.11.2016 00:31  •  Initiated saving energy (standby)
01.11.2016 19:30  •  Resume [5 Realtek PCIe GBE
Family Controller]
01.11.2016 19:28  •  Save energy
01.11.2016 19:28  •  Initiated saving energy (standby)

STATUS

ON

Save energy
Your server version is up-to-date
Server version 2.0.0.3333
Console version 2.0.0.3333

LICENSE

Disable Lights-Out
Help on Lights-Out
4.1.2.1 Status Panel

The status panel shows the current server status and the configured operation mode.

**Status ON**

Lights-Out is on (1) and configured to save energy (2).

![Status ON screenshot]

If you want to temporarily disable Lights-Out, click on the link (3) and enter the amount of time:

![Disable Lights-Out dialog]

Click OK to disable Lights-Out for 1 hour.

**Status OFF**

The status now shows off and the remaining 59 minutes (5).

You can immediately enable Lights-Out with the enable link (6).
Action scheduled

If an action is soon to be executed, a minute:second countdown is displayed:
Connection lost

If a connection gets lost, you see a ?? status. In this case please have a look at the connection status in the upper right corner.
STATUS

??

Do nothing

Your server version is up-to-date

Server version 2.0.0.3337
Console version 2.0.0.3337

Disable Lights-Out

Help on Lights-Out
4.1.2.2 Calendar Panel

The calendar panel shows the number and summary of the next scheduled runtimes for today, tomorrow and the day after tomorrow.

In Lights-Out console, you can click on the header CALENDAR to directly open the calendar tab.

No schedules

If you do not use the calendar, the panel shows no schedules.
Lights-Out 3 User Manual

CALENDAR

NO Schedules

Today
Tomorrow
The day after tomorrow
4.1.2.3 Recording Panel

This panel shows the last power events of your server. You can see the source for wake-ups, executed tasks and power actions.

Some machines do not show that level of details. This depends on the used drivers.

In Lights-Out console, you can click on the header RECORDING to directly open the runtime chart tab.
4.1.2.4 Monitoring Panel

The monitoring panel shows the number of monitored sources, the number of currently active sources, and a list of selected sources.

In our sample we have 9 selected sources, starting with Backup activity and ending with Server Network Load. The last three sources are currently active and are displayed with a bold blue font.

The upper footer link "Save energy" allows you to directly start saving energy, i.e. the server is immediately put into standby.

The lower footer link "Settings" opens the monitoring settings to select or deselect monitored sources.
4.1.2.5 Savings Panel

The saving panel shows you the amount of saved money and carbon dioxide ($CO_2$). The saving is calculated based on your power consumption and electricity plan.

The panel also shows an off/on ratio chart.

- 100% = always off, color goes green.
- 0% = always on, color goes red.

**SAVINGS**

88 €

during 388 recorded days

Saved CO2: 299.0 kg
4.1.2.6 License Panel

The license panel shows you the currently assigned license or allows you to buy and load a license. The upper footer link "Load license" opens the load license dialog to load or remove a license. The lower footer link "Buy a license" or "Extend or upgrade license" opens the order page.

**Evaluation**

During the evaluation period of 30 days, the panel shows the remaining days.

---

**LICENSE**

30 Day(s)

Lights-Out Business (Evaluation)

Load License
Buy a license

After 30 days, the license changes to the free (limited) community edition.

Not licensed
Licensed

If you have a valid license, the panel shows the number of licensed devices, the license type and the licensee.

The lower footer link "Extend or upgrade license" opens the order page to extend then maintenance or upgrade the license.
25 Devices

Professional Edition


Licensed to Martin Rothschink

Load License

Extend or upgrade license
4.1.2.6.1 Upgrade a previous license

If you have an existing Lights-Out license and want to upgrade to a Lights-Out 3 License, you have two choices:
- **Extend maintenance** to cover the new version (preferred method). Do this before (!) you install the new version
- Buy a new license with a discount

To buy a new license, **load the old license** first.

A message box is displayed which tells you that this license is from a previous version:

![Message box](image)

Click OK, Lights-Out is now retrieving your personal license discount in the background.

As a result, the buy a license link changes:

![License dialog](image)

Click on the link to open the license dialog. You can see your personal discount at the bottom. This discount is automatically applied.
Proceed with buying a license.
4.1.2.6.2 Buy A License

⚠️ If you already have a previous Lights-Out license, please read Upgrade a previous license first!

If you do not yet have a license, click on the lower footer link (Buy a license) to open the license dialog.

The license dialog opens:
Please read the description carefully and decide which license is appropriate.

Click on the button with the license you want to order. Your browser opens the order page, in our sample we selected the professional edition.

💡 If your browser on your server is locked down for security reasons, please repeat these steps on a computer with the Lights-Out Management Console.
If necessary change the language and the currency.

Enter your billing information and select a payment method.

⚠️ Please be careful with your email address: This address is used later on to activate your license. It is also used to resend a lost license, so do not use a temporary email address.

The actual reseller is Share-It, a Digital River Company. Share-It provides a printable invoice after check-out and calculates the applicable VAT.

You will receive a confirmation email shortly after your payment has been accepted by Share-It. Now your license file will be created and typically mailed within the next 15 minutes from Green-IT Software.

⚠️ Please check your spam folder! Some email providers (especially Google) move the license file into the spam folder.

Should you still have no license file after 2 days please contact orders@green-it-software.com with your order number.

For all other questions about your order, payment or invoice please visit Share-It Customer Care Center or the Digital River Shopper Support.
4.1.2.6.3 Load A License

**Preparation**

License files are sent via email. Save the attached license file first in your documents or download folder.

⚠️ Please save a copy of the license file in a save place and/or archive the license email. You need the license file again if you reinstall or change the server!

**Loading**

Next click on the upper footer link "Load License" in the license panel.

```
LICENCE

5 Computers

Lights-Out Free Community Edition

NOT LICENSED, FOR PRIVATE USE ONLY!
```

The "load license" dialog opens.
Enter a valid email address (the same you used to purchase the license).

Next enter the path to the license file (1) or click on (2) to open a file browser.

The "Load License" button is now enabled, click it to load the license file.
Please be patient, loading the license file may take some time.
Once loaded, the license panel will show your license:
25 Devices

Professional Edition

Licensed to Martin Rothschild

Load License
Extend or upgrade license
4.1.2.6.4 Extend Or Upgrade A License

If you already have a license, click on the lower footer link "Extend or upgrade license" to open the license dialog.

You see the license dialog, (1) shows the order number of your current license:
Extending support and maintenance

An additional year of support and maintenance may be purchased at any time during the active year or within 1 year after support and maintenance have expired. The new year is **always added to the end of the last maintenance and support period** (4).

**4.1.2.6.4.1 Example 1, You extend your maintenance 2 months before the end**

Maintenance ends at November 11, 2017.
You extend your maintenance on September 5, 2017 and get a new end of November 11, 2018.

**4.1.2.6.4.2 Example 2, You extend your maintenance 3 months after the end**

Maintenance ended at November 11, 2017.
You extend your maintenance on February 15, 2018 and get a new end of of November 11, 2018.

Click on the button (2) to extend support and maintenance for another year. Your browser opens the order page, please **verify that your existing order is present under additional ordering information**.
You receive a new license file, please load the new license to enable the new support and maintenance period.

**Upgrading your license**

If you want to move from a home edition to a professional edition, or from a professional to a business edition, click on the appropriate button (3). Your existing license is valued with a discount for the higher license.
4.1.2.6.5 Remove A License

If you want to remove a license from a server, because you want to transfer the license to another machine, click on the "Load license" footer link in the license panel.

The Load license dialog opens and shows the current license type.

Click on Remove License to remove the license from the server.
4.1.9 Calendar

The calendar tab shows the calendar which is used to schedule actions for the server and computers. The calendar has been completely reworked in Lights-Out 2.

To learn more about the calendar, have a look at

- Calendar Groups
- Calendar Views
- Calendar Items
- Start Actions
- End Actions
- Recurring Schedules

If your calendar looks disabled and grayed out, go to Monitoring Settings and enable the calendar.
4.1.3.1 Calendar Groups

The new calendar introduces a new concept called calendar groups.

A calendar group is used

- to group elements visually
- to use the same calendar entries for multiple computers (members of the same group)

**Group properties**

Lights-Out comes with two predefined groups, additional groups may be created depending on your license.

<table>
<thead>
<tr>
<th>Group name</th>
<th>Type</th>
<th>Member</th>
<th>Contains</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server</td>
<td>Predefined visual</td>
<td>The server only</td>
<td>All schedules applied to the server</td>
</tr>
<tr>
<td></td>
<td>group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Computers</td>
<td>Predefined visual</td>
<td>Every computer or device</td>
<td>All schedules applied to individual computers</td>
</tr>
<tr>
<td></td>
<td>group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>user defined</td>
<td>User defined group</td>
<td>Selected computers</td>
<td>All schedules applied to each member</td>
</tr>
</tbody>
</table>

The two predefined groups are primarily used to group the schedules visually in the calendar.

4.1.3.1.1 Ungrouped view

All calendar entries are displayed within the same calendar view:

![Ungrouped view](image)

4.1.3.1.2 Grouped view

Each group is displayed in a separate calendar view:
In grouped view, always two groups are visible, if you have more groups, use the horizontal slider to see the other groups.

**Creating additional groups**

In the calendar task pane click on Add/Edit calendar group. You see the two predefined groups.

Click on New to create a new group. Enter a group name and a short description:
You may modify the group color by clicking on the ... button.
Click OK to add the new group to the list.

Click OK to close the group list. Now scroll to the right to see the new (empty) group:
You can now create new entries or drag existing entries from the All Computers group.
4.1.3.2 Calendar Views

Calendar User Interface

The calendar user interface allows you to switch between different views and to navigate between dates:

(1) Click on the different views to change between day, month, week or timeline view.
(2) Navigate forth and back in a view
(3) Jump to today

Month view

This is the default view and shows all schedules in the same size. Use this view for a quick overview.

Week view

Use this view to see all schedules of a week. Schedules have different sizes in relation to the time occupied.

Day view
Use this view to see all schedules of one day. Click on > Today to easily select today. Schedules have different sizes in relation to the time occupied.

Timeline view

Use this view to see a timeline of all schedules. Schedules have different sizes in relation to the time occupied.
4.1.3.3 Calendar Items

Date and time settings

A calendar entry must have either a start point in time or an end point in time or both.

A **point in time** consists of a date and a time.

<table>
<thead>
<tr>
<th>Start point in time</th>
<th>End point in time</th>
<th>What happens</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
<td>Only executed at start point in time, machine is not automatically kept awake</td>
<td>Wake-up and run a backup. Backup will keep the machine awake.</td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
<td>Only executed at end point in time, machine is not automatically kept awake</td>
<td>Execute a reboot or a shut down if machine is already running.</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Machine is kept awake between start and end point in time</td>
<td>Wake-up, then stay awake, then go into standby</td>
</tr>
</tbody>
</table>

Creating new items

To create a new calendar item either

- double click in the free area of a calendar view. If you double click in a user calendar group, this group is then preselected

  - or -

  - click on the calendar task "Add new item to calendar"

The Edit schedule dialog opens. There are 3 areas where you must enter data, the fourth is optional:
The affected group or device

You have to select a group or a computer from the list.
(2) The start point in time and the start action(s)
If desired, enable the start date and enter date and time. This creates an item which will start at the specified time. Optionally select a start action.

(3) The end date/time and end actions(s)
If desired, enable the end date and enter date and time. This creates an item which will stop at the specified time. Optionally select an end action.

(4) An optional description
This is only a comment for you and not used by Lights-Out.
Click OK to save the new item. You may optionally turn the item into a series (a recurring event) by clicking on the button Recurrence.
**Editing existing items**

- Either double click the entry in calendar

  - or -

  1. Select the entry with a single click
  2. Click on the calendar task "Edit selected item"

If the selected item belongs to a series (a recurring event), you have to decide if you want to edit the single item or the series:
If you select this occurrence and make any changes, the occurrence is removed from the recurring series.

**Deleting items**

- Either open the item for editing (see above) and then click the button Delete
  - or -
  1. Select the entry with a single click
  2. Click on the calendar task "Delete selected item from calendar" or press the DEL key on the keyboard.

If the entry belongs to a series, this removes the whole series.
4.1.3.4 Start Actions

You can use the calendar start action to perform one or more actions at the start point in time.

Possible start actions for a server

<table>
<thead>
<tr>
<th>Start action</th>
<th>What happens</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wake-up</td>
<td>Creates a wake timer to wake the server</td>
<td>Only works if server is saving energy or is hibernated. Does not work if server is shut down.</td>
</tr>
<tr>
<td>Run a backup</td>
<td>Starts a backup with the selected <a href="#">backup provider</a></td>
<td></td>
</tr>
</tbody>
</table>

Possible start actions for a client computer

<table>
<thead>
<tr>
<th>Start action</th>
<th>What happens</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wake-up</td>
<td>Server sends a magic packet (Wake-On-Lan)</td>
<td>Only works if machine is in standby or hibernation. Does not work if machine is shut down.</td>
</tr>
<tr>
<td>Run a backup</td>
<td>Starts a backup with the selected <a href="#">backup provider</a></td>
<td>Only works if connected via LAN cable and server is awake.</td>
</tr>
<tr>
<td>Wake server for execution</td>
<td>Wakes the server 3 minutes ahead of time to ensure the server can send a magic packet (Wake-On-Lan)</td>
<td></td>
</tr>
</tbody>
</table>
4.1.3.5 End Actions

You can use the calendar end action to perform one action at the end point in time.

Possible end actions for a server

<table>
<thead>
<tr>
<th>Action</th>
<th>What happens</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do nothing</td>
<td>Nothing</td>
<td>Server is no longer controlled by Lights-Out and Windows power management may jump in</td>
</tr>
<tr>
<td>Save energy, Shut down, Reboot etc</td>
<td>The specified action</td>
<td>Action is only executed if no other activity is present. Otherwise use a <strong>forced end action</strong>.</td>
</tr>
<tr>
<td>Standard action</td>
<td>The action configured as default (standard) action in settings</td>
<td>This is the same setting which is used for monitoring</td>
</tr>
</tbody>
</table>

⚠️ **A forced end action may override any activity except backup!**

Possible end actions for a Windows computer

<table>
<thead>
<tr>
<th>Action</th>
<th>What happens</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do nothing</td>
<td>Nothing</td>
<td>Computer is no longer controlled by Lights-Out and Windows power management may jump in</td>
</tr>
<tr>
<td>Save energy</td>
<td>The specified action</td>
<td>Action is only executed if no other activity is present.</td>
</tr>
</tbody>
</table>

A client supports these end actions:
### Action

**down, Reboot etc**

**Standard action**

The action configured as default (standard) action in settings

**Remark**

Otherwise use a **Forced end action**.

This is the same setting which is used for monitoring

### 4.1.3.5.1 Options

<table>
<thead>
<tr>
<th>Option</th>
<th>What happens</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Force end action</td>
<td>Override another calendar entry</td>
<td>Required if you have an overlapping calendar entry and want to execute an end action.</td>
</tr>
<tr>
<td>Execute after backup</td>
<td>End action is executed prematurely after backup</td>
<td>Use this if backup duration is unknown and there is no need for the machine to run any longer. Can be combined with Force end action.</td>
</tr>
<tr>
<td>Execute end action if inactive for xx minutes</td>
<td>End action is executed prematurely if there is no user activity within the last xx minutes</td>
<td>Used for user sessions</td>
</tr>
</tbody>
</table>
4.1.3.6 Recurring Schedules

Lights-Out 2 allows to easily create recurring schedules. Open or create a calendar item and click on Recurrence.

Recurrence Dialog
Recurrence pattern

You typically work in the middle area with the recurrence pattern. First choose the recurrence time (hourly, daily, weekly, monthly, yearly) and then specify the recurrence itself.

4.1.3.6.1 Hourly recurrence

Select the hours:

4.1.3.6.2 Daily recurrence

Either select the number of days or choose every weekday:

4.1.3.6.3 Weekly recurrence

Select the number of weeks and the day in the week:

4.1.3.6.4 Monthly recurrence

Either select the day and the number of months or a special day in a month:
4.1.3.6.5 Yearly recurrence

Either select the month and day or a special day in a month:

Range of recurrence

You can define an end condition or let the recurrence run forever.
4.1.10 Runtime Chart

Recorded runtimes of your devices are visualized in the runtime chart. You can use the diagram to find out when a backup took place or which client computer was active and prevented the server from sleeping. The diagrams are created from left to right in the same order as the legend from top down. Sources, which are only displayed and not used for monitoring are displayed with a dashed style.

⚠ Recording takes only place when your server is running. You do not see active clients while your server is in standby.

User Interface

- The current day is always placed on the right side (1).
- Use the slider (2) to change the days displayed between 2 and 14.
- Look at the legend (3) to identify devices by name or move the mouse over a color bar.

The color of a device can be configured in the device properties.

Using the chart

What's the runtime chart good for? You can easily locate the source which keeps your server awake. You can verify computer runtimes and whether a backup took place at an expected point in time and much more.

Move the mouse over a bar and see more details:
Change the number of days to see details or get an overview.
4.1.11 Computers

This tab shows all your connected computers. Lights-Out 2 allows you to select which computers are managed by Lights-Out. If a computer is not managed, Lights-Out does not control it nor does it count to the number of managed and licensed devices.

The list shows, grouped by type
- Windows Computers (1)
- Macintosh Computers (2)
- The Server (3)
- Not managed computers (4)

The task pane (5) contains commands for the selected computer, the general pane (6) contains commands for all computers.

Grouping in Dashboard

If the Windows Server Essentials or Home Server Dashboard does not show computers or devices grouped by type, right click in the free, white area below the last computer. Select "Group by" then "Device type".

List columns

The list displays most properties of a computer. You can sort the list by each column.
<table>
<thead>
<tr>
<th><strong>Column</strong></th>
<th><strong>Remark</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Computer name as reported by client software</td>
</tr>
<tr>
<td>Status</td>
<td>Managed / Not managed</td>
</tr>
<tr>
<td>IP-Address</td>
<td>IP-Address(es) as reported by client software</td>
</tr>
<tr>
<td>Keep server active</td>
<td>User setting</td>
</tr>
<tr>
<td>Show in chart</td>
<td>User setting</td>
</tr>
<tr>
<td>Calendar group</td>
<td>Selected calendar group, user setting</td>
</tr>
<tr>
<td>Backup provider</td>
<td>Selected backup provider, user setting</td>
</tr>
<tr>
<td>Last backup</td>
<td>Date and time last backup started. Icon shows result of last backup.</td>
</tr>
<tr>
<td>Next backup</td>
<td>Date and time of next scheduled backup. A warning icon is displayed if last backup is more then 7 days ago, or if next backup has been missed.</td>
</tr>
<tr>
<td>Automatically wake server</td>
<td>User setting</td>
</tr>
<tr>
<td>Allow server actions</td>
<td>User setting</td>
</tr>
<tr>
<td>Server</td>
<td>Name of Essentials or Home Server to which the client computer is connected</td>
</tr>
<tr>
<td>Client installed</td>
<td>Software version as reported by client software</td>
</tr>
</tbody>
</table>

**Context menu**

If you right click a computer, you see a context menu which contains the exact same commands as the task pane. Use what you prefer.

**Selected Computer Tasks**
Most commands are self explanatory and do what they say. Some commands depend on the offline/online state of the computer.

**Command** | **Remark**
--- | ---
View the device properties | *Open properties dialog*
Disable/Enable runtime monitoring | Enable or disable *monitoring* to keep the server active
Record runtime/Don’t record runtime | Add or remove the device from the *runtime chart*. This command is only available if monitoring is not enabled.
Remove device | Delete the computer from the list. On a Windows Essentials Server or Home Server you have to delete computers on the Devices or Computers and backup tab of Dashboard.
Wake up with Magic Packet | Wake an offline computer using Wake-On-Lan
Save energy | Perform the selected action. If a user is logged in, a confirmation dialog is displayed and can dismiss the action. Therefore this action may require 30 seconds and more to be executed. Please be patient.
Hibernate | *Start a backup*
Restart | *Start a backup, then execute standard action*
Shut down | *Send a message*** to the selected computer. This can be used to announce a server reboot or other maintenance actions.
Manage / Do not manage computer | Change the management status of a computer

**(All) Computers Tasks**

**Command** | **Remark**
--- | ---
Wake all computers | Wake all computers using Wake-On-Lan
Send a message to all | *Send a message*** to all computers. This can be used to announce a server reboot or other maintenance actions.
Lights-Out settings | *Open server settings*
How do I add and configure network devices? | Open this help section
Support | Open forum link
About | Show about dialog with version information

**Adding a new computer**

A computer is added by *installing the client software* or by *reconnecting*. 
4.1.5.1 Send A Message

That's documented in our blog:

https://www.green-it-software.com/5610/day-7-computers-network-devices-mobile-equipment/
4.1.12 Network Devices

This tab shows all detected network devices. Lights-Out 2 allows you to select which devices are managed by Lights-Out. If a device is not managed, Lights-Out does not control it nor does it count to the number of managed and licensed devices.

The list shows, grouped by type
- Network devices (1)
- Not managed devices (2)

The task pane (3) contains commands for the selected device, the general pane (4) contains commands for all devices.

Grouping in Dashboard

If the Windows Server Essentials or Home Server Dashboard does not show computers or devices grouped by type, right click in the free, white area below the last computer. Select "Group by" then "Device type".

List columns

The list displays most properties of a device. You can sort the list by each column.
Column | Remark
--- | ---
Name | Device name as reported by DNS
Status | Managed / Not managed
IP-Address | IP-Address(es) as detected by Lights-Out
MAC-Address | Physical MAC-Address(es) as detected by Lights-Out
Keep server active | User setting
Show in chart | User setting
First detected | Date and time the device was first detected by Lights-Out.
Last seen | Date and time the device was last active.

Context menu
If you right click on a device, you see a context menu which contains the exact same commands as the task pane. Use what you prefer.

Selected Device Tasks
Most commands are self explanatory and do what they say. Some commands depend on the offline/online state of the device.

Command | Remark
--- | ---
View the device properties | Open properties dialog
Disable/Enable runtime monitoring | Enable or disable monitoring to keep the server active
Record runtime/Don't record runtime | Add or remove the device from the runtime chart. This command is only available if monitoring is not enabled
Remove device | Delete the device from the list. It may return automatically after the next scan.
Wake up with Magic Packet | Wake an offline computer using Wake-On-Lan
Manage / Do not manage device | Change the management status of a device

Network devices tasks

Command | Remark
--- | ---
Wake all computers | Wake all computers using Wake-On-Lan
Lights-Out settings | Open server settings
Scan network for new devices | Start a new scan immediately. Lights-Out scans the network every 30 minutes.
Add device with IP-Address | Add a new device with a fixed IP-Address.
How do I add and configure network devices? | Open this help section
Support | Open forum link
About | Show about dialog with version information

Adding a new device
See above for command Add device with IP-Address.
4.1.13 Mobile Devices

This tab shows all connected mobile devices. Currently mobile devices implement version 1 of the protocol and do not (yet) use the managed/not managed setting.
4.1.14 Device Properties

Configures device properties for computers, network (IP based) and mobile devices. This dialog shows different tabs and panels, depending on the device type.

You can have multiple dialogs open at the same time.

Accessing device properties

To open the properties dialog either:
- Double click the device in one of the list views (Computers, Network Devices or Mobile Devices).
- Right click the device and click on view the device properties in the context menu
- Select the device and click on view the device properties in the command pane on the right

Properties tab

Connected Windows/macOS/Linux Computer

Network device

Mobile device

Shows monitoring options instead of server actions

4.1.14.1 Basic properties

(1) Hostname and (2) IP-Address: Fixed for connected computers. You can change the name for IP based and mobile devices.
(3) MAC Address and Vendor (5) if enabled in Server Settings
(5) Enable monitoring keeps your server running as long as this device is active.
(6) List device in mobile apps (Lights-Out Mobile) and on the remote web page of Windows Server Essentials/Home Server.

4.1.14.2 Runtime chart

(7) If device is selected for monitoring, this option is always selected. Otherwise you can decide to show the runtime of this device.
(8) The color used for this device.

4.1.14.3 Server actions

Not available on network devices!
(9) Device is allowed to control the server. You can enable this on a per device basis and disable this option for example on the kids PC.
(10) You can enable automatic wake-up of the server as soon as the client resumes or boots up. When you disable this setting, you can still wake-up the server using the client context menu.

4.1.14.4 Member of calendar group

Only visible on connected computers.
(11) Add the computer to a calendar group. All schedules of the calendar group are now applied to this computer.

4.1.14.5 Monitoring

Only available on network devices!

(12) If this device is a router, gateway or a WLAN repeater, please check this option.

(13) Use Ping or ARP to detect device activity or let Lights-Out decide. Ping may be blocked by a firewall or may wake the device. ARP on the other hand is a low level request and may falsely detect inactive devices.
4.1.8.6 Adding A New Network Device

Lights-Out periodically scans the network for new devices and adds them to the list. If a device is located behind a router, a gateway or a WLAN repeater, Lights-Out may not see it and you have to add it manually.

⚠️ If you add a device manually, the device must use a fixed IP-Address and responds to ping requests!

Go to the network devices tab and click on Add device with IP-Address.

An empty device property dialog opens. Enter hostname (1) and IP-Address (2), then click OK. Verify that the new device is detected by Lights-Out.
4.1.8.7 Backup Properties

Configures backup properties for computers. This dialog shows different panels, depending on the device type.

Backup tab

4.1.8.7.1 Last backups

This list shows the results and duration of the last 15 backups. You can right click to open a context menu to clean up entries.

Connected Computer

Server

4.1.8.7.2 Backup Provider

(1) Select the backup provider which is used to run a scheduled backup via Lights-Out calendar or by the command pane. You can start the detection again and refresh the list with (2).

4.1.8.7.3 Standard action after backup

(3) Select the standard action for a scheduled backup on a connected computer. To execute the action only in your LAN if the server is online, enable option (4). This prevents this action for example in your holidays far away from home.
4.1.15 Settings

Settings are arranged in 7 sections:

- **Action settings**, configures the standard action
- **Monitoring settings**, configures the monitored sources
- **Backup settings**, shows the preselected backup provider
- **Server settings**, configures additional server options
- **Console settings**, configures console or dashboard options
- **User settings**, configures user access rights
- **Update settings**, configures automatic updates

### Accessing server settings

There are multiple entry points into settings. You can click on the status savings panel link, you can click on the settings link in computer, network devices or mobile devices task panes.
4.1.9.1 Action Settings

Action settings are used to configure the standard action and standard delay.

If monitoring detects that no more sources are active, the delay time begins to run. If the delay time has elapsed, the standard action is executed. For more details on monitoring see Monitoring Overview.

Standard action

Select the standard action (1) in the drop box and the delay time in minutes (2).

You can choose between these standard actions:

- Do nothing: disables monitoring. This setting should be used, if the server runtime is only controlled via calendar.
- Save energy: puts your server into standby
- Hibernate: puts your server into hibernation.
- Shut down: shuts your server down and powers off.
- User action: runs a user defined batch file

### 4.1.9.1.1 User action

If you select User action, a new input field is visible to enter the user command file. The command or batch file can execute several commands but **must end with a standby or a shut down!** You can use the internal shutdown.exe command or you can use psshutdown from Sysinternals Suite.

There are two things to consider:

1. If you select psshutdown.exe the first parameter has to be `/accepteula`, otherwise the command file blocks because there’s no one who can click on the accept EULA dialog.
2. Always use a zero time span to run the command immediately!

A typical command file which ends with a standby looks like this:

**Sample user batch file**

```bash
rem other user commands
rem ...
psshutdown /accepteula /d /t 0
```

⚠️ Please bear in mind that the SYSTEM account is used to execute the command file. This may create problems if you try to use environment variables which may have different values or are simply not defined.

To troubleshoot user actions, please have a look at the SYSTEM-LightsOut2.Server.Service.xxx.log found in C:\ProgramData\LightsOut2\log. The log marks the batch file output with **.

### On execution

#### 4.1.9.1.2 Start/Stop services

When an action is executed, Lights-Out stops specific services first. This guarantees that critical services are kept in a valid state or that blocking services do not interfere.

You can add additional services, like a mail server, separated with a comma. On resume, these services are started again.

#### 4.1.9.1.3 Run on resume

You can run a script, batch file or a program when the server resumes. This program runs in the context of the local service account, so be careful.
4.1.9.2 Monitoring Settings

Monitoring settings are used to configure the monitored sources.

If monitoring detects that no more sources are active, the delay time begins to run. If the delay time has elapsed, the standard action is executed.

For more details on monitoring see Monitoring Overview.

Monitored Sources

Select the monitored sources. As long as one source signals activity, the server is kept running.

Note: Your server may have less available actions, depending on hard- and software!
<table>
<thead>
<tr>
<th><strong>Source</strong></th>
<th><strong>Remarks</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Connected Computers</td>
<td>Monitors activity on computers which have the client software installed. This setting requires that the computer is selected for monitoring on the <strong>computers tab</strong>. The monitored computer should not be running all the time, otherwise use network load monitoring!</td>
</tr>
<tr>
<td>Download and install Lights-Out updates</td>
<td>This source is always enabled. To configure updates, go to <strong>Update Settings</strong></td>
</tr>
<tr>
<td>System Updates / Windows Updates</td>
<td>Monitors system updates and keeps the server running while updates are installed.</td>
</tr>
<tr>
<td>Essentials Disk Storage I/O</td>
<td>Monitors Essentials or WHS disk storage I/O to keep the server running during backup clean-up.</td>
</tr>
<tr>
<td>Remote Desktop Session</td>
<td>Monitors a remote desktop (RDP) session regardless of user activity. A disconnected RDP session is considered as inactive.</td>
</tr>
<tr>
<td>Console Session</td>
<td>Monitors the physical server session using mouse/keyboard and monitor regardless of user activity. As long as the user is logged in, the session is considered as active.</td>
</tr>
<tr>
<td>Known Tasks of Task Scheduler</td>
<td>Monitors special tasks from Windows Task scheduler like Windows Update.</td>
</tr>
<tr>
<td>Shared Files and Folders</td>
<td>Monitors access to shared files or folders. This includes the own user session too!</td>
</tr>
<tr>
<td>User activity</td>
<td>Monitors user activity (mouse, keyboard) of an interactive user session on the server. User activity has a fixed 10 minutes timeout.</td>
</tr>
<tr>
<td>Power requests from other software</td>
<td>Monitors a power requests from a driver or software. Power requests can be viewed with the command <code>powercfg -requests</code></td>
</tr>
<tr>
<td>Remote access</td>
<td>Monitors user access on Essentials or WHS remote web access.</td>
</tr>
<tr>
<td>Mobile devices</td>
<td>Monitors activity of mobile devices which run Lights-Out Mobile. This setting requires that the mobile device is selected for monitoring on the <strong>mobile devices tab</strong>.</td>
</tr>
<tr>
<td>IP based client devices</td>
<td>Monitors activity of any IP based network device. Use this for computers without client software, like an internet radio or a streaming device. This setting requires that you select the device for monitoring on the <strong>network devices tab</strong>. The monitored device should not be running all the time, otherwise use network load monitoring!</td>
</tr>
<tr>
<td>Calendar</td>
<td>Monitors calendar activity and enables calendar actions.</td>
</tr>
<tr>
<td>Web access via http/https</td>
<td>Monitors selected web pages. This can be used to detect if a device with a built in web server responds to requests. You can specify multiple URLs separated with comma.</td>
</tr>
<tr>
<td>v1 Calendar</td>
<td>Monitors file changes of calendar data created for Lights-Out v1 and imports the data into the calendar. You have to specify the target device for the import. This can be the server (in that case use the name server) or any other computer name.</td>
</tr>
</tbody>
</table>
| Processes | Monitors processes on your server. Specify the name of a process without extension, for example use the name notepad to monitor any notepad process. Monitoring only checks the existence of a
<table>
<thead>
<tr>
<th>Source</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Files</td>
<td>Monitors files on your server. Enter a path including drive letter, directory and file name. You can use this to keep the server running when a certain file exists. For example you can use a USB thumb drive to keep the server running or watch a file created by another application. Monitoring only checks the existence of a file, not the contents. If you use a directory instead of a file name, any file within that directory signals activity. Wildcards are not allowed. Multiple file names are separated with a comma.</td>
</tr>
<tr>
<td>Network load</td>
<td>Monitors network load. As long as the network load is above the specified value, the server is kept running. This is intended to watch streaming operations or devices running 24/7. The optimum setting needs some tinkering. For MP3 streaming, typical values are in the range of 5-10KB/s.</td>
</tr>
<tr>
<td>CPU load</td>
<td>Monitors CPU load. As long as the total CPU load is above the specified value, the server is kept active.</td>
</tr>
</tbody>
</table>
4.1.9.3 Backup Settings

Backup settings are used to see the detected and preconfigured backup providers and to configure additional settings.

Monitored Backup

Note: Your server may have less available backup providers, depending on hardware and software!

4.1.9.3.1 Backup providers

Backup providers are detected automatically and cannot be changed.

4.1.9.3.2 User settings

You can enable monitoring of shadow copies. This also enables wake-up for shadow copies. Shadow copies itself are typically finished within a few minutes.
On a Windows Server Essentials/Home Server 2011 you define a time span for client computer backups. You can wake-up your server and then keep the server active during this time span.

On a Synology NAS, this settings starts the NAS for configures tasks in Hyper Backup and Active Backup for Business.
4.1.9.4 Server Settings

Server settings are used to configure additional server options.

Information

Shows the server name, operating system and the hardware. Hardware is either a physical machine, a virtual machine or a container.

Options

You can enable detailed logging for error diagnostics. To download log files, click on the button.

Some language dependent data, like monitoring options, is created on the server. If your server uses a different language, you can change the language for the Lights-Out service on the server. This does not affect any other programs on the server. A server restart may be necessary to make this work.

Wake-On-Wan
This domain name is used for wake-on-wan. If your router supports DynDNS, use a DynDNS domain because the server can not update your xxx.homeserver.com or xxx.remotewebaccess.com domain during standby and other devices may use a wrong IP-Address for server wake-up. This setting is used for mobile equipment outside of your network.

To wake the server, a magic packet is sent to the default port 7 of your router. You can change that port if required, previous versions of Lights-Out used port 9 but this is no longer working on a Fritz!Box router.

**Energy**

You can globally enable or disable power management actions from client computers. This check box has three states:

- **Checked:** Power management actions are always enabled. You can still enable/disable per device in the [Device Properties](#).
- **Unchecked:** Power management actions are always disabled.
- **Undetermined:** Power management actions are enabled for physical machines and disabled for virtual machines or containers.

Enter the estimated (or measured) values for your server hardware and your electricity cost per kWh. Typical values for servers running on an Atom platform are 40-50W and 2W, Intel machines may use 50-300W and 5W. A typical Synology NAS with 2 disks uses 15-20W and 0.5W.

**Privacy**

Lights-Out can resolve vendor names based on your device mac addresses. This transmits your mac addresses to an external web service. If you are concerned about sending mac addresses to an external service, do not enable this option.
4.1.9.5 User Settings

User settings are used to configure user access rights.

Users and Permissions

Use this list to configure additional access rights for server users.
Administrators always have all rights and you can not change the settings.
A power user has the right to use the Lights-Out Management console.
Web access is required on a Windows Server Essentials/Home Server to access Lights-Out in the remote web access page via browser.
4.1.9.6 Update Settings

Update settings are used to configure automatic updates.

**Update channel**

Here you select which software version you want to use. For most users the selection **"Stable (production)"** is the right one. These are officially released software versions.

Users, who participate in a beta test or run a beta version, should choose **"Beta"** as the update channel to get a newer test version.

Alpha versions should only be used on a test computer, as problems can be expected here.

**Update mode**

Here you determine how you want to handle software updates in the future.
4.1.9.6.1  (1) Install updates automatically

This setting (recommended) ensures that you are always up-to-date. New software versions are automatically installed if they are covered by your license or maintenance period. For this purpose, a calendar entry is automatically created, which checks by default every Friday at 6 pm for updates and installs them if necessary. This calendar entry can be changed according to your wishes. For more details have a look at automatic updates.

4.1.9.6.2  (2) Offer updates for installation

This setting sends notifications to all client computers and displays update information and a dialog in console or dashboard to execute the installation. For more details have a look at local or remote server update.

4.1.9.6.3  (3) Display only information, do not send notifications

This setting suppresses notification of client computers and displays new software versions only in the console or dashboard. A message dialog is not displayed. The installation can be initiated via the console link or manually.
4.2 Client Software
4.2.1 Using the client software

The Lights-Out client software lives in the notification (tray) area on your computer. The symbol is a light-bulb and is used to display basic state information.

4.2.1.1 Icons for normal operation

You may get extended information if you move the mouse over the icon to see the tooltip.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Meaning</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Server is not running.</td>
<td>Computer is not connected to his server. Server is either in standby or shut down or there is no network connection to the server.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Server is running.</td>
<td>Computer is connected to his server. Server is up and running.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Backup is running</td>
<td>Computer is connected to his server and currently running a backup.</td>
</tr>
</tbody>
</table>

4.2.1.2 Icons in case of error

<table>
<thead>
<tr>
<th>Icon</th>
<th>Meaning</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Service is not running</td>
<td>This typically indicates a service start problem. Try to start the service manually (Control panel -&gt; administrative tasks -&gt; services). If this happens after each reboot, try to set the service start method to start (delayed). If the error persists, contact support.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Computer is not connected to any server</td>
<td>This icon is only shown if you detach the computer from the server. Please connect to a server again.</td>
</tr>
</tbody>
</table>

Using the context menu

Right click on the icon to open the context menu. This gives you quick access to actions and configurations.

- Section 1 contains power management actions for the server and wake-up for other client computers. "Save energy now" must be enabled in the device properties. The server admin can also disable this action globally!
- Section 2 is all about backup. You can see the selected backup provider. If there are multiple providers, you can select another one. You can start a backup, and optionally execute the standard action. The sub menu is used to run the backup application or manage a backup server. These items depend on the backup provider.
- Section 3 is used to manage the
server and the client settings. You can connect to your server via RDP, TeamViewer or web browser.

- Section 4 opens help and about screen.
- Section 5 is used to close the application.
5  Monitoring Overview

This chapter explains how to use monitoring in Lights-Out to control the server runtime in combination with calendar tasks.

Basic functionality without calendar tasks

This first section explains how monitoring, delay time and standard action are used to control the server runtime.

Lights-Out monitors each selected source and creates one total value (technically a disjunction). As long as this total value is present (in our example yellow), the server is running. If Lights-Out detects no more activity, a timer is started (green). If the delay time has elapsed, the standard action is executed and the server goes into standby (or shuts down).

Any new activity during the delay time will stop the timer. In our example client 1 (dark red) is up again and stops the timer (green). So be careful with the delay time value. If you set a very long time, your server may never go to sleep.

Using a calendar task without action

This next section explains how calendar tasks work together with monitoring. A calendar task with a runtime is handled in the same way as any other source, it signals activity. Use a task (here dark blue) to define periods where your server must be up and running.
Using a calendar task with an end action

A calendar task with an end action may override the standard action. The delay time applies in the same way as to any other activity.

5.1 Task ends during other activity

If the calendar task ends during another activity, the end action is simply ignored and discarded (first case, dark blue).

5.2 Task is the only activity

The second task is the only activity, so if that task ends, the task action is compared to the standard action. The action with higher priority is then executed. So a task action with higher priority may override the standard action. This can be used to schedule a nightly reboot.

Action priority

<table>
<thead>
<tr>
<th>Action</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do Nothing</td>
<td>lowest</td>
</tr>
<tr>
<td>Save energy</td>
<td>lower</td>
</tr>
<tr>
<td>Hibernate</td>
<td>normal</td>
</tr>
<tr>
<td>Shut down</td>
<td>higher</td>
</tr>
<tr>
<td>Reboot</td>
<td>highest</td>
</tr>
</tbody>
</table>

Using a calendar task with a forced end action

A forced end action will override all 3 settings, the delay time, the activity of most sources and the standard action. A forced action is executed immediately! A backup operation, a disk operation and remote access can not be interrupted by a forced end action. The Save Energy now command from the console or from the client context menu is executed as a forced action as well.
Monitored source

Connected Computers           yes
Network devices, Mobile devices  yes
Backup or disk operation      no
Remote access                 no
Files, shared folders, processes yes
CPU or network load           yes
Console or RDP session        yes
Power requests                yes

Forced action possible?
5.3 Running A Server On Demand

Scenario

A server is used for file sharing, streaming and remote access.

Intention

Run the server automatically if needed, save energy the rest of the day.

Recommended Settings

- **Standard delay and action**: 5 minutes, save energy or hibernate.
- **Monitored sources**: All standard sources (connected computers, network devices, backup)
- Select all client computers and all IP clients for monitoring on computer and network tab (default).
- Enable “automatic wake-up” on all client computers (**computers properties**).
- Disable “server actions” on all client computers (**computer properties**).

Result

Server will wake-up when a client computer is started or resumed from standby. Server will stay awake as long as one or more clients are running or as long as audio or video streaming are active.

Additional options

Use network load or share monitoring for devices which are always active (for example Apples iPad).
Configure Wake-On-Wan on your router to enable wake-up over internet.
Configure Lights-Out computer backup.
5.4 Running A Server On Fixed Times

Scenario

A server is used for file sharing, streaming and remote access.

Intention

Run a server with a fixed start and end time.

Recommended Settings

- Create a calendar uptime with a start and end action. Use save energy or hibernate as end action.
- To stop the server at the end time, use a forced end action. Otherwise enable monitoring and set-up a standard action.
- Enable “automatic wake-up” on all client computers (computers properties).
- Disable “server actions” on all client computers (computer properties).

Result

Server will wake-up at the configured start time and remain active until the end time. If your server wakes up outside the configured uptime you have to configured a standard action to disable the running server. This may be triggered by a scheduled backup, shadow copies or your network interface card (if pattern match is enabled).
5.5 Running A Server 24/7

Scenario

A server which is always on.

Intention

Use Lights-Out for backup control, remote wake-up and runtime monitoring of client computers.

Recommended Settings

Standard delay and action: 5 minutes, Do nothing.

Result

Lights-Out will not control your server. You can still use the backup features, Wake-On-Lan and the monitoring information of Lights-Out as well use the client management features.
5.6 Running An Energy Optimized Backup Server

Scenario

Windows Server Essentials or Windows Home Server is used as backup server in a small business environment.

Intention

Run server for client and server backup, save energy the rest of the day.

Recommended Settings

- **Standard delay and action**: 5 minutes, save energy or hibernate.
- **Monitored sources**: Only “Always on during configured backup time”
- Disable “automatically wake server...” on all clients (computers properties).

Result

Server will wake-up and stay online for client and server backup, then saving energy.

Additional options

Add client computers to uptime chart (but do not monitor).

Configure an action after backup for client computers which have trouble with saving energy.

Wake clients on demand with a magic packet (Wake-On-Lan) or a schedule.
5.7 Running Client Computers At Work

Scenario
You have fixed working hours, for example 8:00 AM to 5:00 PM.

Intention
You like to have the computer ready at start of work in the morning. You want the computer to shut down in the evening.
Extra bonus: If the employee does not come to work, the computer should enter standby.

Recommended Settings
Configure Windows Update active hours to 8:00 AM – 5 PM.
Create three calendar entries:
1. Entry: Start at 7:45 AM, end at 8:00 AM. Start action is wake-up, end action do nothing.
2. Entry: Start at 8:00 AM, end at 5:00 PM. No start action, end action is save energy executed after 15 minutes of inactivity.
3. Entry: Start at 5:00 PM, end at 5:15 PM, Start action is wake-up, end action is forced shutdown.

Result
Computer will wake-up at 7:45 AM outside of active hours and install/complete Windows Updates. If the employee arrives at 8:00 AM, the computer is ready for work. If the employee does not come to work, the second entry will start saving energy at 8:15 AM. The third entry ensures that the computer is shut down after work.
6 Backup Overview

A brand new feature in Lights-Out 2.0 is backup monitoring and controlling. While version 1.x was only able to handle Windows Essentials or Home Servers Computer Backup, the new version can now handle additional backup providers.

Backup

Serious users who run a regular backup are assisted by Lights-Out. Lights-Out can schedule backups and monitor backup software of different vendors. For a list of supported programs read the section Backup Provider.

Lights-Out supports backup on your server and on your client computers. Lights-Out can wake a server or client computer at a fixed schedule to run backups.

In times of ransomware and data encryption, a good backup is a must have!

The selected backup provider

Lights-Out 2.0 can monitor activity of multiple backup providers (even in parallel) but only one backup provider can be controlled by calendar schedules or a manual backup action. Therefore you have to select a backup provider for the server and the computers. If only one active backup provider is found, this provider is selected automatically. Otherwise select (1) the preferred backup provider or start a new detection with the refresh button (3).

This backup provider is now used to execute scheduled backups.

If your backup vendor or backup solution is not (yet) supported by Lights-Out please post your feedback on the forums.

Help, my provider list is empty?!

If you use one of the supported backup providers but Lights-Out does not detect any of it, this indicates a missing or wrong configuration. For example, most backup providers require that you define a backup job with backup source and target etc. If you have updated the settings in your backup software, simply click on the refresh button on the right side of the provider selection and let Lights-Out run a detection again. Note: Some backup providers need additional configuration for Lights-Out.

The action after backup

Lights-Out can automatically execute a power action after backup. Set the default action (2) which is executed if not
overridden by a scheduled end action.

**Backup results**

Detailed backup results are collected and presented on the device properties dialog, see above. You can see the executed backup provider, the result and the start and end time of the backup.

**Backup progress**

Some backup providers deliver a detailed backup progress in percent. This progress is displayed on the computer tab. Others report only the state and result.

![Lights-Out 2 Console](image)

**Last backup and Next backup columns**

The two columns in the screen shot above are used for multiple information.

### 6.1 Last backup

Shows the date and time of the last backup together with an icon for the result.

### 6.2 Next backup

Date and time of the next scheduled backup. An icon shows if that time comes from the backup provider (a clock symbol) or if it's provided by the Lights-Out calendar (a calendar symbol).

A warning icon is displayed if the last backup was more then 7 days ago, or if the next backup time has been missed.
6.3 Backup Provider

This list documents the currently supported backup providers, their features and if an additional configuration is required for Lights-Out. Click on the configuration required link to learn more about these additional steps.

**Recommended settings**

To have full control in Lights-Out, do not use features of a backup provider like scheduling, power management or wake-up. Leave that up to Lights-Out.

In order for the provider to be detected by Lights-Out, it must be fully configured and ready for operation.

**Supported backup providers**

<table>
<thead>
<tr>
<th>Backup Provider</th>
<th>Operating System</th>
<th>Reports result</th>
<th>Reports begin/end</th>
<th>Reports progress</th>
<th>Reports own schedules</th>
<th>Executable by Lights-Out</th>
<th>Additional Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essentials or Home Server</td>
<td>Windows</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Windows 7 Backup (available on Windows 7 and 10)</td>
<td>Windows</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Microsoft Azure Backup</td>
<td>Windows</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Acronis True Image Home (2012 and later)</td>
<td>Windows, macOS</td>
<td>yes (2014 and later) on Windows</td>
<td>yes (2014 and later)</td>
<td>no</td>
<td>no</td>
<td>yes, 1 plan required!</td>
<td></td>
</tr>
<tr>
<td>Veaam Endpoint Backup Free</td>
<td>Windows</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>required!</td>
</tr>
<tr>
<td>Cloudberry Backup (WHS, Desktop and Server)</td>
<td>Windows</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>yes, 1 plan required!</td>
<td></td>
</tr>
<tr>
<td>Duplicati 1.x</td>
<td>Windows</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>required!</td>
</tr>
<tr>
<td>Lindenberg Software Backup</td>
<td>Windows</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Carbon Copy Cloner</td>
<td>macOS</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Time Machine</td>
<td>macOS</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>Yes</td>
</tr>
<tr>
<td>UrBackup</td>
<td>Windows, Linux, macOS</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes, incremental file backup</td>
<td>Yes</td>
</tr>
<tr>
<td>Active Backup for Business</td>
<td>Windows</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>yes</td>
<td>required!</td>
</tr>
</tbody>
</table>
If you miss your personal favorite of a backup solution, please give feedback in the forums!

Help, my backup provider is not detected!

If you have a supported backup provider from the list above, but it is not selected under Settings -> Backup Provider, like for example Acronis True Image or Cloudberry Backup in this screen shot then verify that

- the backup provider is configured and working outside of Lights-Out
- you have applied any additional configuration for your backup provider (see table above)

Next let Lights-Out detect your backup providers again. Open the property page of the affected computer and click on the refresh button (3):
### Properties - vStor S.3.2.3.1 - 192.168.1.100 - 9077104577A-69E5

<table>
<thead>
<tr>
<th>Date</th>
<th>Status</th>
<th>Started</th>
<th>Finished</th>
<th>Backup provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:38</td>
<td>11:59</td>
<td>vStor vStorage Client Be</td>
</tr>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:40</td>
<td>12:01</td>
<td>vStor vStorage Client Be</td>
</tr>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:41</td>
<td>12:03</td>
<td>vStor vStorage Client Be</td>
</tr>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:42</td>
<td>12:03</td>
<td>vStor vStorage Client Be</td>
</tr>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:45</td>
<td>12:05</td>
<td>vStor vStorage Client Be</td>
</tr>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:49</td>
<td>12:09</td>
<td>vStor vStorage Client Be</td>
</tr>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:50</td>
<td>12:10</td>
<td>vStor vStorage Client Be</td>
</tr>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:52</td>
<td>12:12</td>
<td>vStor vStorage Client Be</td>
</tr>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:53</td>
<td>12:13</td>
<td>vStor vStorage Client Be</td>
</tr>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:54</td>
<td>12:14</td>
<td>vStor vStorage Client Be</td>
</tr>
<tr>
<td>28.03.2019</td>
<td>Success</td>
<td>10:55</td>
<td>12:15</td>
<td>vStor vStorage Client Be</td>
</tr>
</tbody>
</table>

**Default action after backup**
- Shutdown
- Restart
- Wait until the local server is online

---

1. vStor vStorage Client Backup
2. vStor vStorage Client Backup
3. Default action after backup

OK Cancel Apply
6.4 Acronis True Image Home

You can create multiple backup jobs in TrueImage. As long as you only have **one backup job**, the **name of the job doesn't matter**.

If you create **multiple jobs**, exactly one job must have **Lights-Out in his name**! This is the job which is executed by Lights-Out (either from calendar or manually). If you do not name a job this way, Lights-Out uses the first job found.

**Restrictions in older versions**

Lights-Out can start but not detect a backup running with Truelmage 2012 and 2013 and can't display the backup result. As a consequence, Lights-Out can't keep the server and client awake during a backup.

Full functionality is supported in TrueImage 2014 and later.

**Sample from 2014**

The selected backup job is named "Full backup (Lights-Out)":

![Sample from 2014](image1)

**Sample from 2016**

The selected backup job is named "My Volumes (Lights-Out)":

![Sample from 2016](image2)
6.5 Cloudberry Backup

Supported version of Cloudberry Backup include

- Cloudberry Backup for Windows Home Server 2011
- Cloudberry Backup for Windows Server 2012 Essentials
- Cloudberry Backup Windows Desktop
- Cloudberry Backup Windows Server

Required configuration

To use Cloudberry Backup with Lights-Out you have to make two modifications:

- Move your backup settings to the "All Users" profile to make it accessible for Lights-Out
- (Re)name your backup plan to contain "Lights-Out" in the name. This identifies the plan which is used by Lights-Out.

How to Switch to "All Users" Mode

This is documented in Cloudberry Backup Help. You have to open an administrative command prompt and then execute the command:

Switch to "All Users" mode

cbb.exe option -userMode common

Backup plans

You can create multiple backup plans in Cloudberry Backup. As long as you only have one backup plan, the name of the plan doesn't matter.

If you create multiple plans, exactly one plan must have Lights-Out in his name! This is the plan which is executed by Lights-Out (either from calendar or manually).

To rename an existing backup plan to use it with Lights-Out, click on Backup Plans, then expand the plan and click on "Edit Backup Plan". Click "Next" and change the plan name to include "Lights-Out", e.g. "My backup plan (Lights-Out)".

Save the plan.

Example 1, Cloudberry Backup Desktop
Example 2, Cloudberry Backup WHS
6.6 Duplicati 1.x

That's documented in our blog:

6.7 User Defined Backup Scripts

That's documented in our blog:

https://www.green-it-software.com/6272/day-24-using-user-defined-backup-scripts/
6.8 Synology Active Backup For Business

Synology Active Backup for Business includes different backup modules:

- **PC and Physical Server**, creates an image based backup of pc and servers. Requires a backup agent installed on the pc/server. Can be used for a bare metall restore of the machine.

- **File Server**, creates a file based backup of SMB shares (not considered here).

- **Virtual Machine**, creates backups of virtual machines running on VMWare vSphere (not considered here).

**Backup of PC and Physical Server**

To control backups from Lights-Out (via calendar, task menu or client context menu) requires one additional configuration step.

Please open Active Backup for Business and select PC (or Physical Server). You see a list of connected devices.

![Device List](image1)

Now switch to the "Task List". Change the task name to match the device, like in this screen shot:

![Task List](image2)
Select a task, then click Edit:

The task editor open. Change the task name to match the device name:

Then click OK to save the changes. It may be necessary to open the dialog a second time and click OK to make it work.

Repeat this change for all devices.

6.8.1 Note
You can define additional tasks for your devices. However, only the task with a matching device name can be controlled by Lights-Out. To verify that the changes are working, use the Lights-Out Console to start a backup. If the backup starts, then the changes are working. Otherwise repeat the steps above.
6.9 Synology Hyper Backup

You can create multiple backup tasks in Hyper Backup. As long as you only have one backup task, the name of the task doesn't matter.

If you create multiple tasks, exactly one task must have Lights-Out in its name! This is the task which is executed by Lights-Out (via calendar or task menu).

Open Hyper Backup, select the desired task and click Edit in the menu.

Under Settings, change the task name to include Lights-Out.
You can also back-up the Lights-Out configuration. Go to Application and select Lights-Out.
### Application Tab

<table>
<thead>
<tr>
<th>Application</th>
<th>Shared folder</th>
<th>Disabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lights-Out 3.0 Beta</td>
<td>--</td>
<td>Yes</td>
</tr>
<tr>
<td>OAuth Service</td>
<td>--</td>
<td>No</td>
</tr>
</tbody>
</table>

2 applications selected; 0 applications unselected.
7 Command Line Programs Overview

Lights-Out offers command line programs to help advanced users in special situations or to automate some tasks. This section lists all available command line programs with their intended usage.

**Command line client**

Use the command line client for batch files to automate server wake-up, backups or client actions.

**SSL Wizard**

The SSL wizard offers some command line parameters, which are not available in the UI to renew or reset the certificates.

**Server Cleanup**

Use the server cleanup to remove all schedules, all recordings, all client computers etc.

**Migration tool**

Use the migration tool to import settings from Lights-Out 1.x
7.1 Command Line Client

Those who like to control the server via scripts or batch files can use the Lights-Out command line client. The command line also allows to use the "client action after backup" in batch files or backup/copy scripts.

Using the command line client

The command line client is installed together with the Windows client software and can be found in

Running the command line client

"C:\Program Files\AxoNet Software GmbH\LightsOut2Client\LightsOut2.Client.Commandline.exe"

You have to add a parameter, to execute a command.

7.1.1 Parameters

Call LightsOut2.Client.Commandline.exe with one of these parameters:

<table>
<thead>
<tr>
<th>Short parameter</th>
<th>Long parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-w</td>
<td>--wake_server</td>
<td>Wake server using wake-on-lan</td>
</tr>
<tr>
<td>-s</td>
<td>--suspend_server</td>
<td>Suspend server now</td>
</tr>
<tr>
<td>-e</td>
<td>--enable_monitoring</td>
<td>Monitor this client for activity</td>
</tr>
<tr>
<td>-d</td>
<td>--disable_monitoring</td>
<td>Do not monitor this client for activity</td>
</tr>
<tr>
<td>-g</td>
<td>--get_status</td>
<td>Report state of server and return error level</td>
</tr>
<tr>
<td>-b</td>
<td>--backup_now</td>
<td>Wake server, then execute a backup</td>
</tr>
<tr>
<td>-a</td>
<td>--backup_standard_action</td>
<td>Wake server, execute a backup, then run standard action</td>
</tr>
<tr>
<td>-r</td>
<td>--report_backup_started</td>
<td>Report that a user defined backup has started</td>
</tr>
<tr>
<td>-p n</td>
<td>--report_backup_progress</td>
<td>Report backup progress in percent, range ( n = 0 - 100 )</td>
</tr>
<tr>
<td>-f r</td>
<td>--report_backup_finished</td>
<td>Report that a user defined backup has finished, Result ( r = 0 ) = success, ( 1 ) = failed, ( 2 ) = aborted, ( 3 ) = warnings, ( 4 ) = missed, ( 5 ) = wrong config, ( 255 ) = unknown</td>
</tr>
</tbody>
</table>
| -c action       | --count_down            | Start count down and execute an end action:
|                 |                         | action = Suspend, Shutdown, Reboot                   |
| -h or -?        | --help                  | Display short usage information                      |

7.1.2 Exit Codes

0 = Command was successful or server is not active
1 = Server is active
2 = Error: Lights-Out client service is not running
3 = Parameter error
4 = Time out getting server status

7.1.3 Examples

Get server status
This command returns the server status as exit code. You have to use that in a script.

**Get server status**

```
"C:\Program Files\AxoNet Software GmbH\LightsOut2Client\LightsOut2.Client.Commandline.exe" -g
```

... Server is active

C:\Program Files\AxoNet Software GmbH\LightsOut2Client>

---

**Wake Server**

This command wakes the server via wake-on-lan.

**Wake Server**

```
"C:\Program Files\AxoNet Software GmbH\LightsOut2Client\LightsOut2.Client.Commandline.exe" -w
```

Wake server

C:\Program Files\AxoNet Software GmbH\LightsOut2Client>

---

**Start a count down**

When a user is logged in, this command displays a 60 second countdown and then restarts the computer. If no user is logged in, then a 15 second countdown takes place.

**Start a count down**

```
"C:\Program Files\AxoNet Software GmbH\LightsOut2Client\LightsOut2.Client.Commandline.exe" -c Reboot
```

Start count down and reboot

C:\Program Files\AxoNet Software GmbH\LightsOut2Client>
7.2 Server Cleanup

Server Cleanup is a command line tool to remove recordings, ip clients, scheduled tasks or calendar entries.

Using the cleanup tool

LightsOut2.Server.Cleanup.exe is a command line tool and is located on the server in

Running the cleanup tool

"C:\Program Files\AxoNet Software GmbH\LightsOut2\LightsOut2.Server.Cleanup.exe"

You have to add a parameter, to execute a command.

7.2.1 Parameters

Call LightsOut2.Server.Cleanup.exe with one of these parameters:

<table>
<thead>
<tr>
<th>Short parameter</th>
<th>Long parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-t</td>
<td>--TaskScheduler</td>
<td>Removes all scheduled tasks created by Lights-Out from Windows Task Scheduler</td>
</tr>
<tr>
<td>-r</td>
<td>--Runtime</td>
<td>Remove all runtime recordings and reset all counters</td>
</tr>
<tr>
<td>-i</td>
<td>--IpClients</td>
<td>Remove all IP based (network) clients</td>
</tr>
<tr>
<td>-c</td>
<td>--Calendar</td>
<td>Remove all Lights-Out calendar entries</td>
</tr>
<tr>
<td>-n</td>
<td>--NoRestart</td>
<td>Do not restart Lights-Out 2 service after cleanup</td>
</tr>
<tr>
<td>-h or -?</td>
<td>--help</td>
<td>Display short usage information</td>
</tr>
</tbody>
</table>

7.2.2 Exit Codes

0 = Command was successful or server is not active
1 = Server is active
2 = Parameter error
3 = Execution error

7.2.3 Examples

Removing all runtime recordings and ip based devices

Removing runtime recordings and ip based devices

C:\Program Files\AxoNet Software GmbH\LightsOut2>LightsOut2.Server.Cleanup.exe -r -i
Using WindowsPlatform on Sku=Whs2011 Win7OrLater=True WHS/Essentials=False
LightsOut2.Server.Cleanup 2.0.0.3341
Copyright (C) 2011 - 2016 AxoNet Software GmbH, Martin Rothschink
called with -r -i
Stopping LightsOut2Svc...
Stopped LightsOut2Svc
Removing all runtime recordings...
Removed all runtime recordings...
Removing all network devices...
DeviceInfoReader.ReadInternal 275610290005384 = SGPT12
DeviceInfoReader.ReadInternal 7343F47E-52C3-B14F-0D10-42551037FD1D = I7W10
DeviceInfoReader.ReadInternal 94AD19BDFDBFF26CA5282E24208E5E4585D2582 = RM-892_eu_euro2_217
DeviceInfoReader.ReadInternal 9DDD3D02-07B3-475E-992A-C61630D740A6 = iPad3
DeviceInfoReader.ReadInternal FCCF0060-2778-FAE5-56E6-954EAB0C1064 = SURFACE
DeviceInfoReader.ReadInternal S-1-5-21-1867859661-3290493052-3077371074-1010 = DEVVAIL
DeviceInfoReader.ReadInternal S-1-5-21-1867859661-3290493052-3077371074-1048 = MyMacLion
DeviceInfoReader.ReadInternal S-1-5-21-1867859661-3290493052-3077371074-1052 = vw10pro
DeviceInfoReader.ReadInternal S-1-5-21-1867859661-3290493052-3077371074-1056 = VmVHP
DeviceInfoListReader.CleanupMacs: New mac 00-0C-29-1C-49-E0
DeviceInfoListReader.CleanupMacs: New mac 00-0C-29-4F-8F-7F
DeviceInfoListReader.ReadAll returns 9 items
WriteAll: 275610290005384 SGPT12 was modified True
DeviceInfoWriter.WriteInternal 275610290005384 SGPT12
WriteAll: 7343F47E-52C3-B14F-0D10-42551037FD1D I7W10 was modified True
DeviceInfoWriter.WriteInternal 7343F47E-52C3-B14F-0D10-42551037FD1D I7W10
WriteAll: 94AD19BDFFDBFF26CA5282E24208E5E4585D2582 RM-892_eu_euro2_217 was modified True
DeviceInfoWriter.WriteInternal 94AD19BDFFDBFF26CA5282E24208E5E4585D2582 RM-892_eu_euro2_217
WriteAll: 9DDD3D02-07B3-475E-992A-C61630D740A6 iPad3 was modified True
DeviceInfoWriter.WriteInternal 9DDD3D02-07B3-475E-992A-C61630D740A6 iPad3
WriteAll: FCCF0060-2778-FAE5-56E6-954EAB0C1064 SURFACE was modified True
DeviceInfoWriter.WriteInternal FCCF0060-2778-FAE5-56E6-954EAB0C1064 SURFACE
WriteAll: S-1-5-21-1867859661-3290493052-3077371074-1010 DEVVAIL was modified True
DeviceInfoWriter.WriteInternal S-1-5-21-1867859661-3290493052-3077371074-1010 DEVVAIL
WriteAll: S-1-5-21-1867859661-3290493052-3077371074-1048 MyMacLion was modified True
DeviceInfoWriter.WriteInternal S-1-5-21-1867859661-3290493052-3077371074-1048 MyMacLion
WriteAll: S-1-5-21-1867859661-3290493052-3077371074-1052 vw10pro was modified True
DeviceInfoWriter.WriteInternal S-1-5-21-1867859661-3290493052-3077371074-1052 vw10pro
WriteAll: S-1-5-21-1867859661-3290493052-3077371074-1056 VmVHP was modified True
DeviceInfoWriter.WriteInternal S-1-5-21-1867859661-3290493052-3077371074-1056 VmVHP

Removed 0 network devices
Starting LightsOut2Svc...
Started LightsOut2Svc
done (1)
7.3 Migration Tool

Migration tool is used to import settings from Lights-Out 1.x.

Using the migration tool

LightsOut2.Migration.exe is a command line tool and is located on the server in

Running the migration tool

"C:\Program Files\AxoNet Software GmbH\LightsOut2\LightsOut2.Migration.exe"

The migration tool is run automatically during installation. Migration is only done once. You can force the import of data using one of the parameters.

⚠️ Use with care! If you import settings again, your current configuration is overwritten!

7.3.1 Parameters

Call LightsOut2.Migration.exe with one of these parameters:

<table>
<thead>
<tr>
<th>Short parameter</th>
<th>Long parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-s</td>
<td>--settings</td>
<td>Apply server settings from Lights-Out 1.x</td>
</tr>
<tr>
<td>-d</td>
<td>--device_data</td>
<td>Import computer and network device data from Lights-Out 1.x</td>
</tr>
<tr>
<td>-c</td>
<td>--calendar</td>
<td>Import and convert calendar entries from Lights-Out 1.x</td>
</tr>
<tr>
<td>-h or -?</td>
<td>--help</td>
<td>Display short usage information</td>
</tr>
</tbody>
</table>

7.3.2 Exit Codes

0 = Command was successful
3 = Parameter Error
8 Installation

Lights-Out itself is installed on a server or a computer used as server. This includes Microsoft Windows Server and Desktop systems, Linux servers and NAS devices from Synology.

For a complete list of supported systems have a look at the requirements.

The big picture

Lights-Out is based on several building blocks:

1. A service which is installed on the server or a desktop system used as server. This is the core component (the green Sample Server in the picture). The management console and the client software are connected to that service.
2. A management console which is installed on the server and optionally on any system used to manage Lights-Out.
3. A client software or agent installed on Microsoft Windows or Apple Macintosh computers (the blue devices in the picture). These devices may operate inside your network (LAN) or outside over the internet (WAN).
4. An optional mobile app for smart phones or tablets (the blue devices in the picture). These devices may operate inside your network (LAN) or outside over the internet (WAN).

Components 1. - 3. are part of the installer for the server. The mobile app is a separate component and is available for all major systems (Android, iOS, Windows 8-10, Windows Phone 8-10).

Server installation

8.1 Windows

If this is your first installation of Lights-Out, please read the chapter Windows First Time Installation.

If you are migrating from Lights-Out version 1, please read Migrating From Version 1.

If you are updating from an existing version 2 be sure to read Software Updates

Windows SSL Certificates

SSL Configuration on Windows
Creating New Certificates
Using Existing Certificates
8.2 Synology NAS

Installation on Synology NAS

Client Installation

Start here: Overview
Windows
macOS
Linux

8.3 Advanced Client Deployment on Windows

Creating a pre-configured installation package
Using Direct deploy in Active Directory
8.4 Requirements

Microsoft Windows

Software

All installations require .Net Framework 4.5 or later. If you use an older system, make sure that it's fully patched.

Hardware

- Your server and client computers should support Wake-On-Lan (WOL). Most often a network card driver update is required to make that work reliably. Look at the manufacturer web site for the latest drivers. Also verify that your Bios supports WOL.
- Your server and client computers should support standby mode S3 (also called Save Energy). Most often this requires to install the correct graphics driver on server hardware.
- If S3 is not available or to support hybrid sleep, you should enable hibernation S4. Open an administrative command prompt and execute

  `powercfg -h on`

- To allow timer based wake-up, verify that your Bios has "high precision event timer" (HPET) enabled.

Server

Lights-Out is installed on a Server Operating System or a Desktop System used as a server.

8.4.1 Standard Server

Microsoft Windows Server 2008, 2008 R2
Microsoft Windows Server 2012, 2012 R2
Microsoft Windows Server 2016

8.4.2 Essentials/Home Server

Microsoft Windows Home Server 2011
Microsoft Windows Small Business Server 2011 Essentials
Microsoft Windows Storage Server 2008 R2 Essentials
Microsoft Windows Server 2012 Essentials
Microsoft Windows Server 2012 R2 Essentials
Microsoft Windows Server 2016 Essentials

8.4.3 Desktop used as server

Microsoft Windows 7, 32 and 64 Bit, any edition
Microsoft Windows 8/8.1, 32 and 64 Bit, any edition
Microsoft Windows 10, 32 and 64 Bit, any edition

Client Computers

The client software is supported on these systems to connect to a Lights-Out server.

Microsoft Windows 7, 32 and 64 Bit, any edition
Microsoft Windows 8/8.1, 32 and 64 Bit, any edition
Microsoft Windows 10, 32 and 64 Bit, any edition

Apple macOS

Software

All installations require Mono 5.16 or later. Please download the installer from https://www.mono-project.com/download/stable/#download-mac (the stable channel, not Visual Studio channel).
Server

Lights-Out is not yet available for macOS Server.

Client Computer

The client software is supported on these systems to connect to a Lights-Out server:

- Apple Mac OS X 10.10 Yosemite
- Apple Mac OS X 10.11 El Capitan
- Apple macOS 10.12 Sierra
- Apple macOS 10.13 High Sierra
- Apple macOS 10.14 Mojave

Synology

All installations require Mono 5.8 or later.

Server

All current NAS-Systems with Intel or Realtek Cpu are supported. Entry level systems (J-Series) with Marvell Armada Cpu are not recommended.

- DSM must be on version 6 or later.
- Wake-On-Lan must be enabled, see

Linux

Software

All installations require Mono 5.16 or later. Please go to https://www.mono-project.com/download/stable/#download-lin and follow the instructions for your distribution.

Server

Lights-Out is not yet available for Linux Servers.

Client Computer

The client software is supported on these systems to connect to a Lights-Out server

8.4.4 Debian based

- Debian 8 and 9
- Ubuntu 16.04 and 18.04
- Mint 19
- Raspbian Stretch
- Elementary OS 5

8.4.5 Red Hat based

- RHEL 7
- Fedora 27 and 28
- CentOS 6 and 7

8.4.6 Arch based

- Arch 2018.10
- Manjaro 18
8.5 Migrating From Version 2

Please read this section if you upgrade from an existing version 2.x.

Server

Simply install the new Lights-Out 3 package on your server. It takes care of all the necessary steps. Your existing settings will not be removed if you want to return to version 2.

Windows Client Computer

Lights-Out 3 Client Software updates automatically within 15 minutes. If that does not happen, restart the computer. Should it still fail to update, download and install the client software manually.

macOS Client Computer

Lights-Out 3 Client Software on macOS requires Mono. Please follow the instructions here. The new macOS client software will automatically remove any version 1 or 2 Lights.Out Agent.

After installation, you should remove outdated Login items. Open System Preferences -> Users & Groups and then click on Login Items. Remove any outdated item.

Linux Client Computer

Lights-Out 3 Client Software for Linux is new in version 3. Please follow the instructions here.
8.6 Migrating From Version 1

Please read this chapter if you migrate from a previous version 1.x of Lights-Out (and want to keep your existing settings).

And if I don't want to use my old settings?

If you do not want to import your old settings during migration, please uninstall Lights-Out 1.x first. Then open explorer and navigate to c:\programdata. That folder may be hidden, so please change explorer options if necessary. Then rename the folder LightsOut to LightsOut.old. This prevents the import of your old settings.

What happens during migration?

A migration is done in two main steps:
- Removing Lights-Out 1.x
- Installing Lights-Out 2 which automatically runs the migration
  - Settings migration
  - Calendar migration
  - Device migration

Removing Lights-Out 1.x

This part depends on the platform you are using. Please have a look at Migrating From Essentials/WHS if you run any Essentials or Home Server. If you run a standard server or desktop system as server have a look at Migrating From Standard Server Or Desktop.

⚠️ If you do not want to migrate old settings, remove Lights-Out 1.x. Open explorer and change folder options to show hidden files and folders. Navigate to C:\ProgramData and rename the folder LightsOut to LightsOut.old.

Settings

Lights-Out 2 reads your old settings and then applies these to the matching settings in version 2. Settings which do not exist in version 1 are left unchanged.

Calendar entries

Lights-Out 2 reads your old calendar entries and creates new entries for the server. The migrated entries have a note which tell you that they have been migrated from v1. You should inspect and modify the migrated entries because the new calendar has a lot more and different features.

Devices

Lights-Out 2 reads the old device list and creates new devices with matching settings. This step may create ghost devices or duplicates. Again inspect the new device list carefully and remove duplicates or outdated entries.
8.3.1 Migrating From Essentials/WHS

Please read the main section about migration first.

**Uninstalling Lights-Out v1**

Start all computers and wait until the Dashboard on your server shows all as **online**.

Remove Lights-Out 1.x from the Dashboard (change to Add-Ins or Applications). Select Lights-Out and then click on remove the add-in. This **triggers** the **remove** of Lights-Out on all clients.

⚠️ If a client is not online during this step, Lights-Out is not removed on the computer and may create problems later. In this case manually uninstall Lights-Out on the affected client computer using control panel -&gt; programs and features!

**Installation**

Close Dashboard on the server and proceed with the **installation**.

At the end of the installation, select "**use your existing SSL certificates**"!

Please wait a short time now, Lights-Out 2 creates the user list after the first installation and that may take 30 seconds or more.

**Post installation steps**

Open Dashboard, go to Lights-Out, Tab Computers. Right click all your client computers and select "manage".

Finally **install the new client software**.
8.3.2 Migrating From Standard Server Or Desktop

Please read the main section about migration first.

Simply install Lights-Out 2 on your server or desktop used as server, Lights-Out 1.x is removed automatically.

Select "create new certificates" at the end of installation unless you already have a valid SSL certificate.

Please wait a short time, Lights-Out 2 creates the user list after the first installation which may take 30 seconds or more.

Post installation steps

Open Lights-Out Console, go to tab Computers. Right click all your client computers and select "manage".

Finally install the new client software.
8.7 Server installation
8.4.1 Synology NAS Installation

Requirements and preparation

Lights-Out requires Mono 5.8 or later on your Synology NAS. Unfortunately, the Mono version from Synology itself is outdated (at the time of writing it's 4.6).

Mono 5.x is offered from Syno Community at https://synocommunity.com/packages. To install Mono, please follow these steps (from https://synocommunity.com/).

8.4.1.1 Step 1

Log into your NAS as administrator and go to Main Menu → Package Center → Settings and set Trust Level to Synology Inc. and trusted publishers.

8.4.1.2 Step 2

In the Beta tab, enable beta packages if you want to get access to preview build. Otherwise leave it unchanged for stable versions.
8.4.1.3  Step 3

In the Package Sources tab, click Add, type SynoCommunity as Name and http://packages.synocommunity.com/ as Location and then press OK to add this package source.
Repeat this step and add *Green-IT-Software* as **Name** and *https://nas.green-it-software.com/sspks* as **Location**. The settings should now look like this:
8.4.1.4 Step 4

Go back to the Package Center and navigate to the Community tab. Select the Mono 5.x package and install it.
Synology Requirements

8.4.1.5 Hardware & Power Settings

Open Main Menu → Control Panel and then click on Hardware & Power. On the General tab, verify that "Wake-On-Lan (WOL)" is enabled:
8.4.1.6 HDD Hibernation

On the HDD Hibernation tab, verify that "Enable auto poweroff" is disabled because this is now controlled by Lights-Out:
Installation of Lights-Out

Attention: Do not install Lights-Out via Package Center yet!

8.4.1.7 Configure a Reverse Proxy

Open Main Menu → Control Panel and then click on Application Portal. Click on the Reverse Proxy tab and then on Create. Enter "Lights-Out Internal" as description.

Under source set protocol to HTTPS, host name to '*' and port to 7783.

Under destination set protocol to HTTP, host name to 'localhost' and port to 7782.

Then click OK to add this proxy.
If you want to access Lights-Out from outside (optional), you can repeat the above steps for port 7784 and call the reverse proxy "Lights-Out External".
8.4.1.8 Create certificate(s)

⚠️ The next steps are crucial! Check twice whether you follow the documentation exactly!

Lights-Out requires SSL certificates to secure the communication. Open Main Menu → Control Panel and then click on Security. Click on the Certificate tab. You will see the default synology.com certificate. Click Add to create a new certificate for Lights-Out. This certificate is used for internal communication on port 7783.

Click Next, enter a description, we use "Lights-Out Internal" and select "Create self-signed certificate", then click Next.
Now enter the details for the root (!) certificate: Enter "Lights-Out-CA" as Common Name, then click **Next**.
Finally enter the data for the certificate itself.

Please replace the name ddsml with the name of your Synology NAS. Ddsm1 is the name in our example!

First enter the name of your Synology NAS as common name.

Then enter the name of your Synology NAS again in "subject alternative name". If your router assigns a local domain via DHCP, you may want to add that domain name also. For example the popular Fritz!Box router in Germany appends fritz.box as domain name. The same is true if you run Active Directory.

Append your external domain name if you want to have access from outside.

In our example we enter three names separated with a semi-colon:

- ddsml - the short nebios name of our NAS
- ddsml.fritz.box - the optional local domain name from our router. If you run Active Directory uses your internal domain name here.
- ddsmlnet.synology.me - the optional external name for our NAS

This results in a subject alternate name of "ddsm1; ddsml.fritz.box; ddsmlnet.synology.me"
Click Apply and save your certificate. Finally click on Configure and assign the created certificate to port 7783!

If you want to access Lights-Out from outside, you can assign the same certificate to port 7784 if you included the external name.

Using a certificate from "Let's encrypt" is always a better choice than our self signed cert from above.
Now check whether your certificate configuration corresponds to this screenshot:

8.4.1.9 Manually download and install the package
Download Lights-Out for Synology from https://www.green-it-software.com/downloads/ and save the package in your download folder, then go to Main Menu → Package Center and click on Manual Install.

Browse to your download folder and upload LightsOut-3.x.x.x.spk to your Synology NAS.
Click **Next** and accept the License Agreement.
Click **Next** and confirm the settings, then click **Apply** to start the installation.
If everything worked, you will now see Lights-Out listed as an installed package.
Click on Lights-Out and verify that it's running, Otherwise click on Run.

Description

Lights-Out 3.0 is a Green-IT Software solution which allows you to run your NAS and computers on demand and save energy. Lights-Out monitors the backups of your computers and can wake them up and put them back to sleep.

If you see an error like this instead

Click OK to abort the installation. Then go back and verify your reverse proxy and certificate settings!

Final Test

In your browser, call up the website http://nas:7782. Replace "nas" with the name of your Synology NAS system,
here e.g. ddsm1:

Updates

When Lights-Out updates are published, the Package Center displays them. The update can then be installed with one click.
Next steps

To manage and configure Lights-Out, you should first install the Lights-Out Management Console on a Windows machine.

Then install the client software on all your computers.
8.4.2 Windows First Time Installation

Please read this chapter if you perform a first time installation of Lights-Out on a new server system. A server system can either be a Windows Server OS or a desktop machine used as server. Be sure to check the requirements before you start.

Unified installer

Lights-Out uses a unified installer for all supported Windows systems. The first part of the installation is identical on all systems.

Run the installer with a double click on the file LightsOut.Installer.x.y.z.xxx.exe. The installer is loading:

![Installer loading](Image)

Then the language selection dialog appears:

![Language selection](Image)

Accept or change the language, then click OK.

If a prerequisite like .Net Framework 4.5 is missing, you see a notification and the missing piece is installed first. Otherwise the installer is ready to install Lights-Out:

![Installation progress](Image)

Click Next and wait until the installer has finished the first part of the installation:
SSL Wizard

At the end of the server installation, the SSL wizard is started to configure the required SSL certificates.

⚠️ Do not skip this step; otherwise Lights-Out will not work correctly!

Learn more about certificates in our blog [https://www.green-it-software.com/5275/day-2-ssl-certificates-lanwan-access/](https://www.green-it-software.com/5275/day-2-ssl-certificates-lanwan-access/)

The wizard detects that there is no existing configuration:
and offers two options: Use existing certificates or create new certificates:

Existing certificates are probably available if you
- install in a business environment
- if you run Windows Server 2012/2016 Essentials
- if you run Windows Home Server 2011 or Small Business Server 2011 Essentials

In that case please continue reading **Using Existing Certificates**.

If you install on any other system or on a desktop machine, please continue reading **Creating New Certificates**.

**Next steps**

After the installation has finished, Lights-Out offers to run the management console or dashboard:
It also shows a hint on how you can now connect your client computers to Lights-Out. Read more on client installation.
8.4.3 SSL Configuration on Windows

Lights-Out encrypts the communication between service and clients with https whenever possible. This requires that you assign existing certificates or create new certificates during the first time installation.

💡 If you run Lights-Out in a home environment on a standard server or desktop system, you typically do not have existing certificates and should create and assign new certificates. If you want to access Lights-Out from outside of your local network, you should set-up a dynamic DNS name first. There are many companies that offer these kinds of service, both free and paid, like NO-IP, Dyn etc.

If you run Lights-Out in a business environment or with Windows Server Essentials, you probably already have valid certificates. In that case, try to use these certificates. It is necessary that these existing certificates have been imported into the certificate store on the server machine.

Server Ports used

Lights-Out uses 3 ports for communication with different SSL bindings:

<table>
<thead>
<tr>
<th>Port</th>
<th>DNS Name</th>
<th>SSL Binding</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>7782</td>
<td>Server netbios name, for example &quot;SERVER&quot;</td>
<td>no binding</td>
<td>used for internal access (LAN), insecure</td>
</tr>
<tr>
<td>7783</td>
<td>Server netbios name, for example &quot;SERVER&quot;</td>
<td>SERVER</td>
<td>used for internal access (LAN)</td>
</tr>
<tr>
<td>7784</td>
<td>External domain name or Dynamic DNS name, for example &quot;server.remotewebaccess.com&quot;, &quot;server.homeserver.com&quot; or &quot;server.ddns.org&quot;</td>
<td>server.ddns.org</td>
<td>used for external access (WAN)</td>
</tr>
</tbody>
</table>

If you want to access Lights-Out from outside of your network, you have to forward TCP-Port 7784 in your router and use a valid SSL binding.

Running the SSL Wizard

The wizard is automatically started at the end of the first time installation. If you later change your mind or like to make changes, you can always run the wizard from the start menu.

The wizard will start and show the initial dialog:
Removing all bindings and certificates

If you like to start over again and remove any binding and any self signed certificate created by the wizard, run the wizard with option -reset from the command line!

**Remove SSL bindings and certificates**

```
"C:\Program Files\AxoNet Software GmbH\LightsOut2\LightsOut2.Server.SSL.exe" -reset
```

This command does not show any user interface, so it's recommended to open an administrative command prompt (cmd.exe) and run the command there.

⚠️ Attention: If you remove the SSL bindings and delete the certificates, the clients can no longer connect to the server. You have to recreate the SSL bindings first and then reconnect the clients!

Updating certificates

If you use existing certificates and want to update to a newer certificate, run the wizard with option -update from the command line!

**Update SSL certificates**

```
"C:\Program Files\AxoNet Software GmbH\LightsOut2\LightsOut2.Server.SSL.exe" -update
```

The wizard will inspect the currently assigned certificate and will then look in the certificate store for a similar certificate with the same subject and issuer name but a later expiration date.

This command does not show any user interface, so it's recommended to open an administrative command prompt (cmd.exe) and run the command there.
8.4.3.1 Creating New Certificates

Create new SSL certificates if you run Lights-Out in a home environment on a desktop machine or if you do not have existing certificates. This process creates a new certification authority (a root certificate) and a new server certificate. The server certificate may include your external domain name.

8.4.3.1.1 Where are these certificates stored?

Both certificates are stored in the certificate store for the local computer. The "Personal" folder holds the certificates with their private keys. If you need to use the certificates, export them from there.

The "Trusted Root Certification Authorities" folder contains the Root CA without private key.

Using the wizard to create new certificates

The wizard shows the initial state, you do not have any SSL bindings configured:

Click Next to create new certificates. Select option 2:

In the next dialog, enter your external domain name if you want to access Lights-Out from outside of your local network. In this example we use a dynamic address from NO-IP:
Click Next, the wizard will now create the certificate and show the selected results. You can now go back or accept the selection:

Click Next to see the selected changes:
Click Finish to save and assign the selected certificates:
8.4.3.2 Using Existing Certificates

If you operate a Windows Essentials Server or work in a business environment, you should use your already existing certificates.

⚠️ If you have not yet configured remote web access for your Essentials or Home Server, you’re missing the external GoDaddy certificate. In that case please complete the wizard, configure remote web access in the Dashboard and then rerun the SSL wizard.

8.4.3.2.1 Where are these existing certificates stored?

The existing certificates should be found in the certificate store. This is true for any certificate created by Windows Server Essentials or Home Server. If you have a certificate saved in a file, you should first import that certificate into the certificate store.

Using the wizard to use existing certificates

The wizard shows the initial state, you do not have any SSL bindings configured:

Click Next to use existing certificates. Select option 1:
In the next dialog, verify the preselected certificates and then click Next.

Click Next to see the selected changes:

Click Finish to save and assign the selected certificates:
New configuration has been saved!
8.8 Client Installation (Overview)

Lights-Out requires a client software package to control and monitor client computers. This section explains how you deploy, download, install and configure the client software on Windows.

Lights-Out supports 3 different methods for client installation:

1. Downloading from internal website with manual installation (supported for all operating systems)
2. Creating a pre-configured installation package for user installation (Windows only)
3. Using Direct deploy in Active Directory (Windows only)

We will look at each option and explain the advantages/disadvantages of each.

**Downloading from internal website with manual installation (All OS)**

The user on a client computer must download the software from the internal web page and then interactively install the software. At the end of the installation, the client computer is connected to the server. This requires knowledge of server credentials.

*Lights-Out Client for Windows Computers*
*Lights-Out Client For Mac Computers*
*Lights-Out Client for Linux Computers*

**Creating a pre-configured installation package for user installation (Windows only)**

The administrator creates a pre-configured installation package on the server that remains valid for 7 days, during which time a client computer can connect to the server without further requests. This installation package can be installed and distributed interactively or via command line option /s (silent) without user interface. Server credentials are not required.

*Creating a pre-configured installation package*

**Using Direct deploy in Active Directory (Windows only)**

This method requires that client computers are connected to an Active Directory. This is true for example, for Windows Server Essentials, if the client computers are running a Professional Edition of Windows. Direct Deploy allows to install multiple client computers without further action on the client machine.

*Using Direct deploy in Active Directory*

**Comparison of the 3 methods**

The following table compares the advantages and disadvantages of the 3 methods of client installation.

<table>
<thead>
<tr>
<th></th>
<th>Download</th>
<th>Pre-configured package</th>
<th>Direct Deploy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requirements</td>
<td>none</td>
<td>Package must be created in advance</td>
<td>Client computers must be members of an Active Directory</td>
</tr>
<tr>
<td>Distribution</td>
<td>Via internal web server and download by user</td>
<td>Not specified, share, e-mail, USB stick or software distribution etc. are possible</td>
<td>Directly</td>
</tr>
<tr>
<td>Installation</td>
<td>Manually by server admin</td>
<td>Manually by end user</td>
<td>By server admin</td>
</tr>
<tr>
<td>User group</td>
<td>Server admin</td>
<td>Local PC user</td>
<td>Server admin</td>
</tr>
<tr>
<td>Automation</td>
<td>Not possible</td>
<td>Possible</td>
<td>Automatically</td>
</tr>
<tr>
<td>Silent installation</td>
<td>Not possible, server join requires manual input</td>
<td>Possible</td>
<td>Automatically</td>
</tr>
<tr>
<td>Uninstallation</td>
<td>Manually</td>
<td>Manually</td>
<td>Automatically</td>
</tr>
<tr>
<td>Advantages</td>
<td>Simple distribution</td>
<td>Easy local installation by end users</td>
<td>Direct distribution to many computers in one</td>
</tr>
<tr>
<td>Disadvantages</td>
<td>Server credentials are needed during installation, time consuming</td>
<td>Installation package must be created and distributed once and is then valid for 7 days</td>
<td>Computers must be up and running</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Use case</td>
<td>Home users</td>
<td>Home and corporate users</td>
<td>Corporate users</td>
</tr>
</tbody>
</table>
8.5.1 Lights-Out Client for Windows Computers

On each client open your browser of choice and navigate to http://server:7782. Replace server with the real name of your server where you installed Lights-Out.

The browser will open the Lights-Out main page.

Click on "Download installers" to open the download page. Then click on Windows to download the installer.

Run the installer with a double click on the file LightsOut3.Installer.client.exe. The installer is loading:
Then the language selection dialog appears:

Accept or change the language, then click OK.

If a prerequisite like .Net Framework 4.5 is missing, you see a notification and the missing piece is installed first. Otherwise the installer is ready to install the Lights-Out 2 Client Software:

Click Next and wait until the files are installed.
At the end of the installation you have to connect the client computer with the server:

Typically, the first combo box contains your server(s). If your network does not support multicasts like some older powerlan equipment, select the second option and enter the name of your server.

If you plan to use the computer outside of your local network, also enter the external DNS name. In this sample we use the NO-IP name.

Then click Connect.
Enter administrator credentials for the server. This is not necessary if your computer is joined to an AD domain and you are logged in as domain admin.

If the connect is successful, the installation is finished.
You will now see the Lights-Out bulb icon in your tray:

Right click the bulb to open the context menu:
8.5.2 Creating a pre-configured installation package

Lights-Out 2.5 allows you to create a pre-configured installation package on the server that remains valid for 7 days, during which time a client computer can connect to the server without further requests. This installation package can be installed and distributed interactively or via command line option /s (silent) without user interface.

**Step 1 - Create an installation package**

As an administrator, open "Lights-Out 3 Create Client Package" on the server. This can be found in start menu -> Lights-Out 3 for Windows -> "Lights-Out 3 Create Client Package".

This command executes LightsOut3.Client.JoinServer on the server. If necessary, complete the external URL and port and then click on Export.
Select an output directory, ideally on an accessible share, and then click OK.
The installation package is now created and then saved in the selected location.

Step 2 - Distribute package

The created installation package can be distributed to the clients in the usual ways: by a share, by email, by USB stick or automatically via software distribution systems.

Step 3 - Run installation package in interactive mode

The client computer user can run the installation package directly. The installation package is not code signed because it was created directly on the server, the warning can be ignored.

⚠️ Attention: The server must be accessible during installation; otherwise automatic connection will fail!
The package displays the validity and the destination server.

Clicking on Install is then executing a standard, interactive client installation, but there is no "connection to the server" phase because this information is included in the package!

Step 4 - Silent execution of the installation package (optional)

If you use a software deployment system, you can run the package in silent mode. Again, the server must be accessible during installation; otherwise automatic connection will fail!

Run the package with parameter /s

"\path to installer\LightsOut2.Installer.ClientPackage.<servername>.exe" /s
8.5.3 Using Direct deploy in Active Directory

Direct Deploy allows you to install the client software across an entire Active Directory network.

Requirements

1. Client computers are connected to an Active Directory. This is true for example, for Windows Server Essentials, if the client computers are running a Professional Edition of Windows.
2. Windows Firewall must allow remote administration. This can be done via Group Policy Default Domain Policy | Computer Configuration | Policies | Administrative Templates | Network | Network Connections | Windows Firewall | Domain Profile Enable setting Windows Firewall: Allow inbound remote administration exception
3. Client computers must be up and running.

Using Direct Deploy

As a domain administrator, start Direct Deploy on the server start menu -> Lights-Out 2 for Windows -> "Lights-Out 2 Client Direct Deploy".

Choose your language and then enter administrative credentials. If necessary, check the default values and add the url/port for external access.
Click Next, Direct Deploy is now scanning all online machines in your Active Directory. Depending on the number of computers, this process may take some time.
The detected computers are then listed with their installation status:

```
<table>
<thead>
<tr>
<th>Installed on:</th>
<th>Not found on:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stor2016W.ess2016.internal vv10pro2016.ess2016.internal</td>
</tr>
</tbody>
</table>
```

This might take a few minutes.
You may need to logon, or run this setup as a domain administrator.
The example found 3 active computers without Lights-Out client software. Select the computers where you want to distribute the client software from the list (1) and then click Install (2).

In this example, the installation is done on vwin7en and vw10pro2016:

![Lights-Out 2 Client Setup - InstallAware Wizard](image)

The installation is done one after the other and can therefore take some time.
At the end, a scan is performed again and the new state is displayed.
Now the options on the left are also available. By selecting from the left list, the client software can be reinstalled (1) or removed (2). Remaining computers can be installed (3).

**Note 1:** Run the query again if the display does not meet your expectations.

**Note 2:** A software update via Direct Deploy is usually not necessary as it happens automatically.

You can repeat the above steps at any time to install additional machines.
8.5.4 Lights-Out Client For Mac Computers

**Preparation 1, Security**

If you do not run macOS Mojave, you can skip this step and go to Preparation 2.

Apple introduced enhanced security features in macOS Mojave. You have to add Terminal.app to the list of apps, which are allowed to access the system to make Lights-Out work properly.

Open System Preferences and click on "Security & Privacy":

Under Privacy, unlock to make changes, then select "Full Disk Access" and click "+":

Navigate to Applications->Utilities and select Terminal.app:

Verify that Terminal.app is now listed with full disk access:

**Preparation 2, Mono installation**

Install the downloaded package, simply click Continue until you’re finished.
**Preparation 3, Name resolution**

Verify that your macOS resolves the server name without using a .local domain. Open terminal.app and enter

```bash
ping servername
```

If that returns a response, skip the rest of this section and go to the next step.

If it does not succeed and returns "Unknown host", then try with .local:

```bash
ping servername.local
```

If that returns a response, we have to get rid of .local.

Please open System Preferences -> Network. Click on advanced, go to DNS tab. Add "local" as additional search domain in the right pane. Then repeat the ping test with servername again. It should now work without .local.

**First time installation**

On each client open Safari and navigate to [http://server:7782](http://server:7782). Replace server with the real name of your server where you installed Lights-Out.

The browser will open the Lights-Out main page.

Click on "Download installers" to open the download page. Then click on the blue Mac button to download the installer.
Run the downloaded pkg file and click Continue

At the end of your installation, you have to connect the macOS client computer with your server. Typically, the first combo box contains your server(s). If your network does not support multicasts like some older powerlan equipment, select the second option and enter the name of your server.

If you plan to use the computer outside of your local network, also enter the external DNS name.
Then click Connect and enter administrator credentials for the server.

Finished. Now a new icon (the Lights-Out bulb) is visible on top.

Click on the bulb to open the context menu.
8.5.5 Lights-Out Client for Linux Computers

Download Lights-Out Client installation package

On each client open your web browser and navigate to http://server:7782 or, if SSL is already working, to https://server:7783. Replace server with the real name of your server where you installed Lights-Out.

The browser will open the Lights-Out main page.

Click on "Download installers" to open the download page. Then click on the correct Linux package for your distribution and download the installer.
Installation

Now continue with the instructions for your distribution:

Debian, Ubuntu, Mint, Raspian, MX Linux, Elementary
RHEL, Fedora, CentOS
Arch, Manjaro
8.5.5.1 Lights Out Client for Debian based distributions

Preparation, install Mono

Lights-Out requires the Mono runtime version 5.14 or later on Linux computers. Unfortunately almost all distribution repositories offer only the outdated version 4.x of Mono. To install version 5 you have to open your web browser and navigate to https://www.mono-project.com/download/stable/. Follow the instructions to add the correct package repository to your distribution.

On Debian 9, for example, the requires steps are:

```bash
sudo apt install apt-transport-https dirmngr
sudo apt-key adv --keyserver hkp://keyserver.ubuntu.com:80 --recv-keys 3FA7E0328081BFF6A14DA29AA6A19B38D3D831E9
echo "deb https://download.mono-project.com/repo/debian stable-stretch main" | sudo tee /etc/apt/sources.list.d/mono-official-stable.list
sudo apt update
```

**Tip:** Open a terminal and enter `sudo -i` (or `su` in Debian) to run a login shell session. Then copy and paste the commands from the mono-project.com web site. After installing mono, press CTRL+D to end the session.

**Tip 2:** On Debian, sudo is typically missing, so enter su first, then paste the commands into Text Editor, remove all sudo commands (don’t forget the one before tee) and then paste all lines into the command line.

After adding the required repository, install the package **mono-complete**. This may take a while, so please be patient.

```bash
$ sudo apt install mono-complete
```

To verify the installation enter
$ mono --version

You should see an output similar to this one (be sure to see version 5.x, not 4.6.2!)

mrk@debian-9-6:$ mono --version
Mono JIT compiler version 5.16.0.179 (tarball Thu Oct  4 10:24:32 UTC 2018)
Copyright (C) 2002-2014 Novell, Inc, Xamarin Inc and Contributors. www.mono-project.com
TLS:           __thread
SIGSEGV:       altstack
Notifications: epoll
Architecture:  amd64
Disabled:      none
Misc:          softdebug
Interpreter:   yes
LLVM:          yes(3.6.0svn-mono-/
GC:            sgen (concurrent by default)

Supported distributions

This installation package has been tested on:

Debian 8 and 9
Ubuntu 16.04 and 18.04
Mint 19
Raspian Stretch

⚠️ Other debian based distributions may work also but have not been tested!

First time installation

Download the file *lights-out-client.deb*. Then open a terminal and enter

$ sudo apt install ./Downloads/lights-out-client.deb

Example session on Debian 9:

root@debian-9-6:/home/mrk# apt install ./Downloads/lights-out-client.deb
Reading package lists... Done
Building dependency tree
Reading state information... Done
Note, selecting 'lights-out-client' instead of './Downloads/lights-out-client.deb'
The following additional packages will be installed:
  at libappindicator3-1 xprintidle
The following NEW packages will be installed:
  at libappindicator3-1 lights-out-client xprintidle
0 upgraded, 4 newly installed, 0 to remove and 0 not upgraded.
Need to get 7,106 B/107 kB of archives.
After this operation, 16.8 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 cdrom://[Debian GNU/Linux 9.6.0 _Stretch_ - Official amd64 DVD Binary-1
20181110-11:34] stretch/main amd64 at amd64 3.1.20-3 [47.5 kB]
Get:2 cdrom://[Debian GNU/Linux 9.6.0 _Stretch_ - Official amd64 DVD Binary-1
20181110-11:34] stretch/main amd64 libappindicator3-1 xprintidle 0.2-10+b1 [7,106 B]
Fetched 7,106 B in 0s (122 kB/s)
Selecting previously unselected package at.
(Reading database ... 132534 files and directories currently installed.)
Preparing to unpack .../a/at/at_3.1.20-3_amd64.deb ...
Unpacking at (3.1.20-3) ...
Selecting previously unselected package libappindicator3-1:amd64.
Preparing to unpack .../libappindicator3-1_0.4.92-4_amd64.deb ...
Unpacking libappindicator3-1:amd64 (0.4.92-4) ...
Selecting previously unselected package xprintidle.
Preparing to unpack .../xprintidle_0.2-10+b1_amd64.deb ...
Unpacking xprintidle (0.2-10+b1) ...
Selecting previously unselected package lights-out-client.
Preparing to unpack .../lights-out-client.deb ...
Unpacking lights-out-client (3.0.0.4125) ...
Processing triggers for mime-support (3.60) ...
Processing triggers for desktop-file-utils (0.23-1) ...
Setting up xprintidle (0.2-10+b1) ...
Setting up at (3.1.20-3) ...
Processing triggers for libc-bin (2.24-11+deb9u3) ...
Processing triggers for systemd (232-25+deb9u6) ...
Processing triggers for man-db (2.7.6.1-2) ...
Processing triggers for gnome-menus (3.13.3-9) ...
Setting up libappindicator3-1:amd64 (0.4.92-4) ...
Setting up lights-out-client (3.0.0.4125) ...
Processing triggers for libc-bin (2.24-11+deb9u3) ...
root@debian-9-6:/home/mrk#

Required dependencies are automatically installed. Again, omit sudo on Debian and run su first.

**First time configuration**

To connect the client to your server, enter

```
$ sudo LightsOut.Client.JoinServer
```

Or open the start menu and locate the Lights-Out JoinServer software:

![Lights-Out JoinServer software](image)

The client connect software displays a single dialog and should detected the server(s) in your network (1) automatically. If automatic detection fails, you can try to enter the server name (2) manually. Optionally enter the external name of your server if you want to have access from outside (3), then click on **Connect** (4):
Enter your server credentials (!) and click **OK:**

You are now connected to your server, click **Cancel** to exit.
Notification icon (tray icon)

Finally start the client user interface. Again you can run the program from command line with

$ LightsOut.Client.UI

Or open the start menu and locate the Lights-Out Client UI software.

💡 The client user interface is automatically started after your next login.

Distribution-dependent peculiarities

8.5.5.1.1 Debian

Debian shows legacy tray icons in the lower left corner of the screen. Click on the small dark gray area to show the icon:
To improve the situation, install the Gnome extension (K)StatusNotifierItem/AppIndicator Support.

8.5.5.1.2 Ubuntu

Please use the mono repository for Ubuntu (https://www.mono-project.com/download/stable/#download-lin-ubuntu).

Ubuntu has no issues and displays the icon top right.

8.5.5.1.3 Mint

Please use the mono repository for Ubuntu (https://www.mono-project.com/download/stable/#download-lin-ubuntu).

Mint Cinnamon, XFCE and Mate have no issues and display the tray icon besides the other system icons.
8.5.5.4  Raspberry Pi with Raspian Stretch


Raspian has no issues and displays the icon top right.
8.5.5.2 Lights Out Client for Fedora/CentOS based distributions

Preparation, install Mono

Lights-Out requires the Mono runtime version 5.14 or later on Linux computers. Unfortunately almost all distribution repositories offer the outdated version 4.x of mono. To install version 5 you have to open your web browser and navigate to https://www.mono-project.com/download/stable/. Follow the instructions to add the correct package repository to your distribution.

On CentOS 7, for example, the required steps are:

```
rpm --import "https://keyserver.ubuntu.com/pks/lookup?op=get&search=0x3FA7E0328081BFF6A14DA29AA6A19B38D3D831EF"
su -c 'curl https://download.mono-project.com/repo/centos7-stable.repo | tee /etc/yum.repos.d/mono-centos7-stable.repo'
```

Tip: Open a terminal and enter sudo -i to run a login shell session. Then copy and paste the commands from the mono-project.com web site. After installing mono, press CTRL+D to end the session.

After adding the required repository, install the package `mono-complete`.

```
$ sudo yum install mono-complete
```

To verify the installation enter

```
$ mono --version
```

You should see an output similar to this one (be sure to see version 5.x, not 4.6.2!)

```
$ mono --version
Mono JIT compiler version 5.16.0.187 (tarball Mon Oct  8 08:52:21 UTC 2018)
Copyright (C) 2002-2014 Novell, Inc, Xamarin Inc and Contributors. www.mono-project.com
TLS:           __thread
SIGSEGV:       altstack
Notifications: epoll
Architecture:  amd64
Disabled:      none
Misc:          softdebug
Interpreter:   yes
LLVM:          yes(3.6.0svn-mono-)
GC:            sgen (concurrent by default)
```

Supported distributions

This installation package has been tested on:

**CentOS 6 and 7**

**Fedora 28 and 29**

⚠️ Other Fedora/CentOS based distributions may work but have not been tested!

First time installation

Download the file `lights-out-client.rpm`. Then open a terminal and enter

```
$ sudo yum install
```

Example session on CentOS 7.5:

```
$ sudo yum install ./Downloads/lights-out-client.rpm
```
Loaded plugins: fastestmirror, langpacks
Examining ./Downloads/lights-out-client.rpm: lights-out-client-3.0.0.4125-Alpha.noarch
Marking ./Downloads/lights-out-client.rpm to be installed
Resolving Dependencies
--> Running transaction check
--> Package lights-out-client.noarch 0:3.0.0.4125-Alphascript to be installed
--> Package libappindicator-gtk3 for package: lights-out-client-3.0.0.4125-Alpha.noarch
Loading mirror speeds from cached hostfile
* base: ftp.rz.uni-frankfurt.de
* extras: mirrors.23media.de
* updates: centos.schlundtech.de
--> Running transaction check
---> Package libappindicator-gtk3.x86_64 0:12.10.1-6.e17 will be installed
---> Package libdbusmenu-16.04.0-4.e17 will be installed
---> Package libdbusmenu-gtk3-16.04.0-4.e17 will be installed
---> Package libindicator-gtk3-16.04.0-4.e17 will be installed
---> Finished Dependency Resolution
== Dependencies Resolved
==
Package Arch Version Repository
===========================================================================================================================
== Installing: lights-out-client noarch 3.0.0.4125-Alpha /lights-out-client 15 M
== Installing for dependencies:
libappindicator-gtk3 x86_64 12.10.0-13.e17 base 37 k
libdbusmenu.x86_64 16.04.0-4.e17 base 132 k
libindicator-gtk3 x86_64 12.10.1-6.e17 base 63 k
Transaction Summary
===========================================================================================================================
== Install 1 Package (+4 Dependent packages)
Total size: 15 M
Total download size: 266 k
Installed size: 16 M
Is this ok [y/d/N]: y
Downloading packages:
(1/4): libappindicator-gtk3-12.10.0-13.e17.x86_64.rpm | 37 kB 00:00:00
(2/4): libdbusmenu-gtk3-16.04.0-4.e17.x86_64.rpm | 34 kB 00:00:00
(3/4): libdbusmenu-16.04.0-4.e17.x86_64.rpm | 132 kB 00:00:00
(4/4): libindicator-gtk3-12.10.1-6.e17.x86_64.rpm | 63 kB 00:00:00
--
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Installing : libdbusmenu-16.04.0-4.e17.x86_64 1/5
Installing : libindicator-gtk3-12.10.1-6.e17.x86_64 2/5
Installing : libappindicator-gtk3-12.10.0-13.e17.x86_64 3/5
Installing : lights-out-client-3.0.0.4125-Alpha.noarch 4/5
Verifying : lights-out-client-3.0.0.4125-Alpha.noarch 5/5
Verifying : libdbusmenu-16.04.0-4.e17.x86_64 2/5
Verifying : libdbusmenu-gtk3-16.04.0-4.e17.x86_64 3/5
Verifying : libappindicator-gtk3-12.10.0-13.e17.x86_64 4/5
Verifying : libindicator-gtk3-12.10.1-6.e17.x86_64 5/5
Installed: lights-out-client.noarch 0:3.0.0.4125-Alphascript
Dependency Installed: libappindicator-gtk3.x86_64 0:12.10.0-13.e17 libdbusmenu.x86_64 0:16.04.0-4.e17 libdbusmenu-gtk3.x86_64 0:16.04.0-4.e17 libindicator-gtk3.x86_64 0:12.10.1-6.e17
Complete!
[mrk@centos-75 ~]$
Required dependencies are automatically installed.

**Post installation steps**

Enable and start the daemons:

```bash
$ sudo systemctl enable lights-out-client.service atd.service
$ sudo systemctl start lights-out-client.service atd.service
```

**First time configuration**

To connect the client to your server, enter

```bash
$ sudo LightsOut.Client.JoinServer
```

Or open the start menu and locate the Lights-Out JoinServer software:

The client connect software displays a single dialog and should detected the server(s) in your network (1) automatically. If automatic detection fails, you can try to enter the server name (2) manually. Optionally enter the external name of your server if you want to have access from outside (3), then click on Connect (4):

⚠️ At the time of writing, multi casts are not working on CentOS. Therefore the server is not found automatically. Please enter the server name manually.

Enter your server credentials (1) and click **OK**: 
You are now connected to your server, click Cancel to exit.

Notification icon (tray icon)

Finally start the client user interface. Again you can run the program from command line with

```bash
$ LightsOut.Client.UI
```

Or open the start menu and locate the Lights-Out Client UI software.

🥳 The client user interface is automatically started after your next login.

Distribution-dependent peculiarities

8.5.5.2.1 CentOS

As already mentioned, multi casts are not working on CentOS (see above). This only affects the one time configuration step where you join the server. The client software itself is full functional.

CentIS has no other issues and displays the icon top right.

8.5.5.2.2 Fedora
Fedora 28 uses the CentOS 7 repositories for Mono. At the time of writing, this does not work on Fedora 29!
Fedora does not display the Lights-Out tray icon. Install (K)StatusNotifierItem/AppIndicator Support to see the icon.
8.5.5.3 Lights Out Client for Arch based distributions

**Preparation, install Mono**

Lights-Out requires the Mono runtime version 5.14 or later on Linux computers. Arch and Manjaro provide an actual mono package in the extra repository.

To install mono, either use the command line or one of the graphical packet managers like Pamac or Octopi.

On the command line enter:

```
$ sudo pacman -S mono
```

If you prefer one of the UIs, search for mono, select and install it:

To verify the installation, open a terminal and enter:

```
$ mono --version
```

You should see an output similar to this one (be sure to see version 5.x, not 4.6.2!)

```
$ mono --version
Mono JIT compiler version 5.16.0 (makepkg/6e48ad4f7b1 Mon Oct 15 22:56:48 CEST 2018)
Copyright (C) 2002-2014 Novell, Inc, Xamarin Inc and Contributors. www.mono-project.com
TLS: __thread
SIGSEGV: altstack
Notifications: epoll
Architecture: amd64
Disabled: none
Misc: softdebug
Interpreter: yes
LLVM: supported, not enabled.
GC: sgen (concurrent by default)
[mrk@manjaro-18-kde ~]$ 
```

**Supported distributions**

This installation package has been tested on:

**Arch 2018.10 and later**

**Manjaro 17 and 18**

*Other Arch based distributions may work but have not been tested!*

**First time installation**

Download the file `lights-out-client.pkg.tar.xz`. Then open a terminal and enter:

```
$ sudo pacman -U ./Downloads/lights-out-client.pkg.tar.xz
```

Example session on Manjaro 18:

```
[mrk@manjaro-18-kde ~]$ sudo pacman -U ./Downloads/lights-out-client.pkg.tar.xz
```
loading packages...
looking for conflicting packages...
Packages (7) at-3.1.23-1 libappindicator-gtk3-12.10.0-12 libdbusmenu-glib-16.04.0-2
libdbusmenu-gtk3-16.04.0-2 libindicator-gtk3-12.10.1-7 xprintidle-0.2.2-1
lights-out-client-3.0.0-4125
Total Download Size: 0,19 MiB
Total Installed Size: 16,12 MiB
:: Proceed with installation? [Y/n] Y
:: Retrieving packages...
at-3.1.23-1-x86_64                      37,0 KiB   529K/s 00:00 [####################################] 100%
libdbusmenu-glib-16.04.0-2-x86_64       62,5 KiB  947K/s 00:00 [####################################] 100%
libdbusmenu-gtk3-16.04.0-2-x86_64       35,2 KiB  4,91M/s 00:00 [####################################] 100%
libindicator-gtk3-12.10.1-7-x86_64      26,9 KiB  8,76M/s 00:00 [####################################] 100%
libappindicator-gtk3-12.10.0-12-x...    29,0 KiB  7,07M/s 00:00 [####################################] 100%
xprintidle-0.2.2-1-x86_64                5,0 KiB  0,00B/s 00:00 [####################################] 100%
(7/7) checking keys in keyring           [####################################] 100%
(6/7) checking package integrity         [####################################] 100%
(6/7) loading package files              [####################################] 100%
(7/7) checking for file conflicts        [####################################] 100%
(7/7) checking available disk space      [####################################] 100%
:: Processing package changes...
(1/7) installing at                       [####################################] 100%
(2/7) installing libdbusmenu-glib        [####################################] 100%
(3/7) installing libdbusmenu-gtk3        [####################################] 100%
(4/7) installing libindicator-gtk3        [####################################] 100%
(5/7) installing libappindicator-gtk3     [####################################] 100%
(6/7) installing xprintidle              [####################################] 100%
(7/7) installing lights-out-client       [####################################] 100%
:: Running post-transaction hooks...
(1/3) Reloading system manager configuration...
(2/3) Arming ConditionNeedsUpdate...
(3/3) Updating the desktop file MIME type cache...
[mrk@manjaro-18-kde ~]$ 

Required dependencies are automatically installed.

**Post installation steps**

Enable and start the daemons:

$ sudo systemctl enable lights-out-client.service atd.service
$ sudo systemctl start lights-out-client.service atd.service

**First time configuration**

To connect the client to your server, enter

$ sudo LightsOut.Client.JoinServer

Or open the start menu and locate the Lights-Out JoinServer software:
The client connect software displays a single dialog and should detected the server(s) in your network (1) automatically. If automatic detection fails, you can try to enter the server name (2) manually. Optionally enter the external name of your server if you want to have access from outside (3), then click on Connect (4):

Enter your server credentials (!) and click OK:
You are now connected to your server, click **Cancel** to exit.

**Notification icon (tray icon)**

Finally start the client user interface. Again you can run the program from command line with

```
$ LightsOut.Client.UI.sh
```

Or open the start menu and locate the Lights-Out Client UI software.

*Note: The client user interface is automatically started after your next login.*

Manjaro KDE, XFCE and Gnome have no issues with the tray icon and display the symbol besides the other system icons.
8.5.5.4 Installing Gnome Extension (K)StatusNotifierItem/AppIndicator Support

Gnome developers decided to ban all notification icons from the desktop. This affects the Lights-Out Client icon. To get the icon back, install a Gnome Extension called (K)StatusNotifierItem/AppIndicator Support.

8.5.5.4.1 Step 1 - Open Software

Click on Add-ons:

8.5.5.4.2 Step 2 - Install add on

Locate the add-on (K)StatusNotifierItem/AppIndicator Support and click it.
Click on install

After install, launch it and verify that it’s enabled:
8.5.5.4.3 Step 3 - Logout and login

It may be necessary to logout now and then login again. You should now see the Lights.Out icon!
8.9 Lights-Out Console

You can install and run the console on any Windows computer to manage Lights-Out on any server in your network. Open your browser of choice and navigate to http://server:7782. Replace server with the real name of your server where you installed Lights-Out.

The browser will open the Lights-Out main page.

Click on "Download installers" to open the download page. Then click on Console, to download the console installer. Run the installer.

After installation, the console opens. Now proceed with the first login.
8.6.1 Lights-Out Console

You can install and run the console on any Windows computer to manage Lights-Out on any server in your network.

Open your browser of choice and navigate to http://server:7782. Replace server with the real name of your server where you installed Lights-Out.

The browser will open the Lights-Out main page.

Click on "Download installers" to open the download page. Then click on Console, to download the console installer. Run the installer.

After installation, the console opens. Now proceed with the first login.
8.10 Lights-Out Mobile

That's documented in our blog:

https://www.green-it-software.com/6337/day-26-mobile-access-lights-out-mobile/
8.7.1 Installing A SSL Certificate

That's documented in our blog:

https://www.green-it-software.com/6337/day-26-mobile-access-lights-out-mobile/
8.11 Troubleshooting

**Client can't connect to a server**

If you try to join a client to a server, but the connection fails, check these items:

- Try to open [http://yourservername:7782](http://yourservername:7782) in a browser on your client. If that fails:
  - Verify that your network on server and client is set to a private, company or domain network - not as public network!
  - Verify that you have created and assigned valid SSL certificates on the server.

**Reconnection a client**

If a server connection gets lost, or if you want to connect the client to a different server you want to reconnect the client software.
8.8.1 Reconnecting A Client Computer

If a server connection gets lost, or if you want to connect the client to a different server, open the About ... dialog. Right click on the bulb and select About ...

In the About window click on the server name, here s2016:
The Server Discovery dialog opens and shows your current connection:

Reconnecting to the same server

If you simply want to renew the connection, click on Connect and enter administrator credentials for the server. This may be necessary if you have changed or updated your SSL certificates.
**Detaching from server**

If you want to remove the client from the server, click on Detach. A message box tells you that it may take up to 3 minutes for the client service to recognise the change.

Close the dialog and click on Cancel.

**Connecting to a server**

To connect to a server, open the Server Discovery as outlined above and select or enter a new server name.

Click on Connect and enter administrator credentials for the server.
Click OK to close the dialog. It may take up to 40 seconds for the service to apply the change.
9 Software Updates

Lights-Out supports different ways to update the software.

💡 We recommend to configure and use automatic updates on Windows machines.

Windows Server Update

- Automatic updates
- Local or remote server update
- Manual update

Syology NAS Update

Updates are performed in the Package Center.

Client Computer Update

Computers update automatically.
9.1 Automatic Updates

New software versions are automatically installed if they are covered by your license or maintenance period. If enabled, a calendar entry is automatically created, which checks by default every Friday at 6 pm for updates and installs them if necessary. This calendar entry can be changed according to your wishes. In the example, the installation time was set to 19 o'clock:

![Calendar Entry]

The recurrence pattern can also be customized.

⚠️ Note: The calendar entry can only be permanently deleted by changing the update mode, manual deletion automatically leads to a new entry with default values.

As an indicator of a successful update, the console or dashboard displays a brief note at the next logon:
Lights-Out has been successfully updated to version 2.5.0.3767.
Have a look at the blog to learn more about the new version.
9.2 Local or remote server update

If you have configured the setting "Offer updates for installation", a dialog box will be displayed to initiate the installation.

If the dashboard or console is running directly on the server, the update is downloaded and then executed interactively. On the other hand, if the console is running on the client, a remote update will take place. First the software is downloaded, then the installation is prepared and finally executed.
Remote server update

Update 2.5.0.3767 Alpha is available!

Your current license / maintenance entitles you to install this version.

This may take around 5-15 minutes, depending on download and server performance.

Download: 100%

Installation: 3%

Preparing installation

Start  Cancel

Remote server update

Update 2.5.0.3767 Alpha is available!

Your current license / maintenance entitles you to install this version.

This may take around 5-15 minutes, depending on download and server performance.

Download: 100%

Installation: 20%

Installation in progress...

Start  Cancel

Lights-Out 2

Lights-Out has been successfully updated to version 2.5.0.3767.
Have a look at the blog to learn more about the new version.

OK
**Note:** Dashboard does not support remote updates. When the dashboard is open on a client computer, the dashboard is actually running on the server and is displayed on the client computer via Remote Desktop. Because the server dashboard closes during the server update, it is not possible to remotely update from the dashboard. In this case, please log in directly to the server or use the Lights-Out console.
9.3 Manually Updating Existing Version

Please read this chapter, if you are updating within the same major version, e.g. from 3.0 to 3.1.

Updating the server

To update, run the installer LightsOut2.Installer.x.y.zzzz.exe. The installer is loading:

Then the language selection dialog appears:

Accept or change the language, then click OK.

The Lights-Out installer detects a previous version and displays this start dialog:

The previous version is uninstalled but all your settings are kept. After that process, the standard installation takes place:
At the end you see the standard finish dialog:
9.4 Client Computer Updates

9.4.1 Client Computers (Windows, Linux and macOS)

Client computers will automatically update within a few minutes. You see a yellow warning if the client runs an outdated version:

<table>
<thead>
<tr>
<th></th>
<th>Allow</th>
<th>Server</th>
<th>Client Installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td></td>
<td></td>
<td>2.0.0.3331</td>
</tr>
<tr>
<td>✓</td>
<td></td>
<td></td>
<td>2.0.0.3331</td>
</tr>
</tbody>
</table>

The client will automatically download the new package and install it. A few minutes later you see that the version is now up-to-date:

<table>
<thead>
<tr>
<th></th>
<th>Allow</th>
<th>Server</th>
<th>Client Installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td></td>
<td></td>
<td>2.0.0.3334</td>
</tr>
<tr>
<td>✓</td>
<td></td>
<td></td>
<td>2.0.0.3334</td>
</tr>
</tbody>
</table>

If a client does not update, wait at least 10 minutes, then reboot the client to trigger the update again.
9.5 Synology Update

Using a package source
If you configured the package source during installation, you get a notification about updated packages. Simply click on Update or Update All to install the latest version.

Running a manual update
If you have not configured the package source, you have to download the latest spk file and do a manual update.
Browse to the downloaded spk file and load it. Then click **Next** to start the update.
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