

Pier

Installation and Administration Guide

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About this document

This guide covers installing Pier version 0.3.1, its initial configuration, checking that it works, updating it, saving its settings, removing it and troubleshooting.

It is written for the customer's system administrators. It assumes Windows administration skills (services, the command line, software installation) and knowledge of the storage protocols and servers the product connects to.

1. General

Pier mounts WebDAV, SFTP and NFS version 3 storage as Windows drives and backs up folders (Pier Backup) to WebDAV, SFTP, NFS and S3 storage. It is installed on every computer that needs the drives. The product has no server component.

Component	What the administrator needs to know
Executable	%ProgramFiles%\Pier\Pier.exe when installed with the setup program
Windows service	name <code>Pier</code> , display name "Pier network drives", LocalSystem account, automatic delayed start, restart on failure
Icon and settings window	the same <code>Pier.exe</code> in the user's session; started from the "Pier" shortcut in the Start menu
Driver	Dokany 2.3.1, listed separately among the installed programs
Service data	%ProgramData%\Pier
User data	%LOCALAPPDATA%\Pier

Drives are mounted by the service, so they appear without anyone signing in and are available to every user of the computer. The notification-area icon is not needed for the drives to work. The product does not set the icon up to start automatically when a user signs in.

2. Environment requirements

2.1. Operating system and rights

- Windows 10 version 1809 (build 17763) or later, Windows 11, Windows Server 2019 or later; 64-bit (x64) only.
- Administrator rights to install and remove the product and to configure backups.
- The Dokany driver 2.3.1. The Pier setup program installs it when `dokan2.dll` is not present in the system folder. No reboot is needed after the driver is installed.
- Local disk space for the cache: up to 4096 MB per drive by default, under `%ProgramData%\Pier\cache`. The cache folder and size can be set per drive.

2.2. Network

All connections are outbound; the product opens no inbound network ports.

Purpose	Address and port	Note
WebDAV	the customer's server, TCP 443 (HTTPS) or 80 (HTTP), or the configured port	through WinHTTP with automatic proxy discovery

Purpose	Address and port	Note
SFTP	the customer's server, TCP 22 or the configured port	direct connection; proxies are not supported
NFS version 3	the customer's server, TCP 111 (portmapper), the mountd port, TCP 2049	connections are made from ports below 1024; the ports can be set with the <code>mountport</code> and <code>nfsport</code> options
S3 (backups)	the customer's server, TCP 443 or 80, or the configured port	through WinHTTP
Vendor's account server	<code>accounts.new-imobile.com</code> , TCP 443	registration, edition terms, updates, ads of the Free edition
Vendor's website	<code>new-imobile.com</code> , TCP 443	download of the setup packages and of the Dokany installer

The service runs as LocalSystem. The root certificates that the HTTPS servers' certificates chain to must be in the computer's certificate store.

3. Installation

3.1. Delivery set

File	Purpose
<code>Pier-0.3.1-Setup.exe</code>	setup program: the Dokany driver 2.3.1 (when missing) and the product
<code>Pier-0.3.1.msi</code>	Windows Installer package with the product, without the driver
<code>Pier-0.3.1.zip</code>	installation without the setup program: <code>Pier.exe</code> , <code>DokanSetup.exe</code> , the Dokany licence texts, README and CHANGELOG files

The packages are downloaded from the product page, <https://new-imobile.com/en/pier/>. The Pier files of version 0.3.1 carry no code-signing signature, so Windows may show an unknown-publisher warning. Check the integrity of the downloaded file by its SHA-256 checksum:

```
certutil -hashfile Pier-0.3.1-Setup.exe SHA256
```

The value for `Pier-0.3.1-Setup.exe` is:

```
8287fe3faf3455235dedfdf93fc595729c5blaf284bf2d8d9ac28a0d430b488a
```

3.2. Installing with the setup program

1. Run `Pier-0.3.1-Setup.exe` and confirm the User Account Control prompt.
2. Wait for it to finish. The setup program installs the Dokany driver when it is missing, then installs the product into `%ProgramFiles%\Pier`, registers and starts the `Pier` service, creates the "Pier" shortcut in the Start menu and starts the product's icon for the current user.

Unattended installation:

```
Pier-0.3.1-Setup.exe /quiet /norestart
```

Exit code 0 means success; 3010 means success with a reboot required.

3.3. Installing the MSI package

Pier-0.3.1.msi installs the product and the service only. The Dokany driver must already be installed, with DokanSetup.exe from the archive.

```
msiexec /i Pier-0.3.1.msi
```

3.4. Installing from the archive

1. Run DokanSetup.exe from the archive. Skip this step if Dokany 2.x is already installed.
2. Unpack the archive into a permanent folder, for example C:\Program Files\Pier.
3. As an administrator, run the command that registers the Pier service with automatic delayed start and starts it:

```
Pier.exe install
```

4. Initial configuration

4.1. Checking the driver

```
Pier.exe driver
```

The command prints the driver name and version. If no driver is found, Pier.exe driver install installs it: the service downloads the Dokany 2.3.1 installer from the vendor's website, checks its SHA-256 checksum and runs it unattended. If Dokany has been uninstalled, reboot the computer before installing it again.

4.2. Adding drives

Drives are added in the settings window (see the User Guide) or from the command line with a description file:

```
Pier.exe set mount.json
```

An example for a Nextcloud server:

```
{
  "name": "Nextcloud",
  "drive": "Q",
  "autoMount": true,
  "endpoint": {
    "protocol": "webdav",
    "host": "https://cloud.example.com",
    "root": "/remote.php/dav/files/alice",
    "user": "alice",
    "password": "..."
  }
}
```

Key in endpoint	Value
protocol	webdav, sftp or nfs

Key in endpoint	Value
host	server name, or a link starting with <code>https://</code> , <code>http://</code> , <code>sftp://</code> or <code>nfs://</code>
port	port; 0 means the protocol's default port
root	path on the server; for NFS, the export
user,password	login and password; for SFTP with a key, password is the key passphrase
privateKey	for SFTP, the content of the private key file (not its path)
tls,verifyTls	for WebDAV, use HTTPS and validate the certificate; both on by default
extra	for NFS, <code>uid=1000,gid=1000</code> and, when needed, <code>mountport=N,nfsport=N</code>

The optional sections `net`, `cache`, `transfer` and `compat` correspond to the Network, Cache and Compatibility pages of the drive editor. The command prints the drive identifier (`mount id`) used by the other commands. Before a new drive is saved the service connects to the server; if the server refuses, the drive is not saved. Once saved, the password and the key are kept in `config.json` under DPAPI protection; delete the description file with the clear-text password after running the command.

The other drive commands:

```
Pier.exe status
Pier.exe mount <id>
Pier.exe unmount <id>
Pier.exe remove <id>
Pier.exe sync <id>
Pier.exe offline <id>
Pier.exe online <id>
Pier.exe clearcache <id>
Pier.exe probe <id or json file>
```

Commands exit with code 0 on success, 1 on an error and 2 on wrong arguments.

4.3. Registration and edition

For the first 14 days after the service first starts, the product works without registration. After that, drives and backup jobs can be added or changed and backups started only once the product is registered; drives that are already configured keep working. Registration is done in the settings window, on the Account tab, with an e-mail address and a code sent by e-mail, and needs access to the vendor's account server. There is no command-line registration and no registration without Internet access.

The Pro edition is taken out in the iMobile account for the same e-mail address; after payment, press "Refresh license" on the Account tab. One address can be registered on up to 3 computers in the Free edition and up to 10 in the Pro edition; over the limit, the computer that has not contacted the account server for the longest time is signed out.

4.4. Data sent to the vendor

Event	What is sent
Request for a registration code	e-mail address, product identifier, interface language
Activation	e-mail address, the code from the e-mail, product identifier, computer identifier (a hash of the Windows MachineGuid)
Fetching the edition terms: when the icon starts, once an hour, on "Refresh license"	account token, product identifier, product version, interface language, computer identifier

Event	What is sent
Update check by the service: 90 seconds after it starts, every 6 hours, on command	product identifier, product version
Ads in the Free edition	token, product identifier, event type (shown or clicked), ad identifier

In addition, update files and ad pictures are downloaded from the account server, and the Dokany driver installer from the vendor's website when the driver is missing. Storage addresses, logins, passwords, keys, file names and file content are not sent to the vendor. The update check runs even when auto-update is off; it cannot be disabled by a setting.

4.5. User access

- A mounted drive is available to every user of the computer. On the server they all act as the one account configured for the drive.
- Any user signed in on the computer can add, change, mount, unmount and remove drives.
- The service performs backup operations only for members of the local Administrators group.
- The folder `%ProgramData%\Pier\backup` is accessible to SYSTEM and administrators only. The product's other folders are created with the permissions inherited from `%ProgramData%`. The drive cache is not encrypted.
- Passwords and keys in the settings files are protected with DPAPI bound to the computer: a file moved to another computer cannot be decrypted. The protection is bound to the computer, not to a user, and does not separate the users of one computer.

5. Checking that it works

1. Make sure the service is running: `sc query Pier` reports the state `RUNNING`. After Windows boots the service starts with a delay (delayed start), and the drives appear once it has started.
2. Run `Pier.exe version`: it prints `Pier 0.3.1` and a build stamp.
3. Run `Pier.exe status`. The first line contains `service ok`, the driver name and version, the edition and the drive limit. One line per drive follows: identifier, letter, name, address, state (`mounted` or `unmounted`, `offline`, the error text after `ERROR:`), cache size and the number of files waiting to be uploaded (`pending`).
4. Run `Pier.exe probe <id>`. It prints the server check results as lines marked `[ok]`, `[warn]` or `[FAIL]` and exits with code 0 when nothing failed.
5. Open the drive in File Explorer, create and delete a test file, and make sure `pending` goes back to zero.

6. Updating

Ninety seconds after it starts and then every 6 hours the service asks the vendor's account server for the latest version. The reply is signed; the service verifies the signature, downloads the new executable into `%ProgramData%\Pier\update` and checks its size and SHA-256 checksum.

With auto-update on, the new version is installed when there is no active transfer, no upload queue and no backup running; otherwise the attempt is repeated 10 minutes later. During installation the service stops, the executable is replaced and the service starts again. The drives are unavailable meanwhile (about a minute). If the Dokany driver is missing, it is installed before the update.

Auto-update is turned off with "Install updates automatically" on the Settings tab or with "Auto-update" in the icon's menu. With auto-update off the new version is still downloaded, but it is installed only when the user asks.

```
Pier.exe update
Pier.exe update apply
```

The first command checks for an update immediately; the second installs it without waiting for transfers to finish.

On computers without access to the account server, update the product by running the setup package of the new version over the installed one. Settings, drives and the cache are kept. The product has no built-in way to return to the previous version.

7. Backup and recovery

7.1. Saving the product's settings

What to save	Content
%ProgramData%\Pier\config.json	drives and general settings
%ProgramData%\Pier\backup	backup jobs and the state of their last run
%ProgramData%\Pier\install.json, license.json	date of the first start, edition terms
%LOCALAPPDATA%\Pier\account.json	the user's registration

Procedure:

1. Make sure the upload queue is empty (`pending` is zero for every drive). Unsent changes exist only in the cache folder.
2. Stop the service with `net stop Pier`.
3. Copy the files and folders listed above.
4. Start the service with `net start Pier`.

To restore on the same computer, stop the service, put the files back and start the service. On another computer the saved passwords and keys cannot be decrypted (DPAPI protection is bound to the computer): enter them again in the drive editor or with `Pier.exe set`, and register again.

Keep the password of each Pier Backup copy somewhere other than the computer: without it the copy cannot be read, and the password cannot be recovered.

7.2. Pier Backup jobs from the command line

The commands must be run by a member of the Administrators group.

```
Pier.exe backup list
Pier.exe backup set <job.json>
Pier.exe backup run <job> [nowait]
Pier.exe backup stop <job>
Pier.exe backup snapshots <job>
Pier.exe backup ls <job> <version|latest> [path]
Pier.exe backup restore <job> <version|latest> <folder|original> [path]
Pier.exe backup forget <job> <version>
Pier.exe backup prune <job>
Pier.exe backup check <job> [data]
Pier.exe backup log <job> [lines]
Pier.exe backup remove <job>
```

A job is given by its identifier or name, a version by its identifier, the beginning of it, or the word `latest`. `check` without an argument checks that the repository files exist and have the right size; with `data` it downloads and decrypts all the data. `remove` deletes the job only; the copy on the server stays. `run` exits with code 0 on success, 3 when some files could not be read and 1 on failure.

An example job file:

```
{
  "name": "Documents",
  "sources": ["C:\\Users\\alice\\Documents"],
  "excludes": ["*.tmp"],
  "endpoint": {
    "protocol": "sftp",
    "host": "backup.example.com",
    "root": "/srv/backup/pc01",
    "user": "backup",
    "password": "..."
  },
  "password": "...",
  "schedule": { "mode": "daily", "hour": 1, "minute": 30 },
  "retention": { "keepLast": 10, "keepDaily": 7, "keepWeekly": 4, "keepMonthly": 12 }
}
```

- `sources` holds full folder paths. `excludes` holds masks with Windows wildcards; a mask containing a backslash or a colon is matched against the full path, any other against the name. When the key is absent, `$RECYCLE.BIN`, `System Volume Information`, `pagefile.sys`, `hiberfil.sys` and `swapfile.sys` are skipped. The product's own data and cache folders are always skipped.
- The destination is given either by the `endpoint` section (protocols `webdav`, `sftp`, `nfs`, `s3`) or by the keys `destMount` (identifier of a configured drive) and `destPath` (a folder on that drive's server). For S3, `root` is `/bucket/folder`, `user` and `password` are the access key and the secret key, and `extra` can hold `region=...`
- `password` is the backup password. `schedule.mode` is `manual`, `hourly` (key `everyHours`, 1 to 168) or `daily` (keys `hour`, `minute` and the optional `weekdays`, a bit mask of days of the week whose lowest bit is Monday). Schedules are available in the Pro edition.
- Also available: `compress` (`true` by default), `speedLimitKbps`, `enabled`.

A scheduled run missed because the computer was off is performed after it is switched on. Each job keeps its copy in its own folder; one folder must not be given to two jobs.

8. Removal

1. Make sure the upload queue is empty: unsent changes are lost when the cache is deleted.

2. Uninstall the product from the Windows list of installed apps: the entry "Pier 0.3.1" (or "Pier" when it was installed from the MSI package). If it was installed from the archive, run `Pier.exe uninstall` as an administrator and delete the product folder.
3. If required, uninstall the Dokany driver from the list of installed programs. It is not removed together with Pier because other programs may use it.
4. Delete the data folders `%ProgramData%\Pier` (settings, cache, logs, jobs) and `%LOCALAPPDATA%\Pier` of each user. The uninstaller does not delete them.

Backups on the servers and the registration data on the vendor's account server are not affected by uninstalling the product.

9. Troubleshooting

9.1. Logs

Log	Content
<code>%ProgramData%\Pier\service.log</code>	the service: start and stop, server check reports, mounts, errors, uploaded files, update checks. At 4 MB the file is renamed to <code>service.log.1</code>
<code>%ProgramData%\Pier\update.log</code>	installation of an update
<code>%ProgramData%\Pier\setup.log</code>	registering and removing the service with the <code>install</code> and <code>uninstall</code> commands
<code>%ProgramData%\Pier\backup\<job identifier>\log.txt</code>	runs of a backup job and files that could not be read. Limited to 1 MB
<code>%LOCALAPPDATA%\Pier\tray.log</code>	the icon and the settings window: registration, edition terms

The logs are UTF-8 text files in English; a line holds the date, the time, the level (`INFO`, `WARN`, `ERROR`) and the message. The service log is shown on the Log tab and by `Pier.exe log [lines]`; a job log is shown by the "Log..." button and by `Pier.exe backup log`. The logs contain server addresses, logins and file paths. The product does not write to the Windows event log. There is no record of user actions.

9.2. Common failures

Symptom	Cause	What to do
driver: NONE, the "Driver not installed" message	Dokany is not installed	run <code>Pier.exe driver install</code> or <code>DokanSetup.exe</code>
service is not running	the service is stopped or has not yet started after boot	<code>sc query Pier, net start Pier</code>
credentials rejected	the server refused the login or password	check the credentials; for Nextcloud use an app password
TLS: ... (check the certificate or disable verification)	the server certificate failed validation	install the root certificate into the computer's store; switching validation off lowers security
root path not found on the server	wrong path on the server	correct the path
mount: access denied for ... (NFS)	the server does not export to this client	check the export list on the server and the client address
private key: ... (SFTP)	unsupported key format or wrong passphrase	convert the key to OpenSSH format, check the passphrase

Symptom	Cause	What to do
a range warning in the check report	the server, or a proxy in front of it, ignores Range requests	configure the proxy to pass Range requests; otherwise large files can only be read from the start
free version: at most 5 drives can be mounted at once	limit of the Free edition	unmount drives that are not needed or take out the Pro edition
the period without registration is over	14 days have passed without registration	register the product on the Account tab
backups are managed by an administrator of this computer	the user is not in the Administrators group	perform the operation as an administrator
manifest signature does not verify, failed its SHA-256 check	the update server's reply or the file was altered in transit	check the proxy and any traffic inspection; the drives are not affected
an upload does not finish	no connection to the server, or the server rejects the file	the reason and the attempt number are shown on the Transfers tab and in the log; the upload is retried automatically

On-access antivirus scanning slows down work with large numbers of small files on a mounted drive.

9.3. Information for a support request

Attach the output of `Pier.exe version` and `Pier.exe status`, the file `service.log` and, for backups, the job log. Before sending logs, bear in mind that they contain server addresses, logins and file paths.

Document history

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1.0	2026-10-06	0.3.1	First issue