

Arcsecond.local on your network

Arcsecond.local listens on one port of your local network (5555) and on nothing from the Internet side. Everything else is outbound. One destination is required: `licensing.arcsecond.io` on port 443. A default installation also looks up 10 public astronomy services, all on port 443, and runs without them. The rest exists only when you turn a feature on.

WHAT LISTENS

- Port 5555, every interface: The application itself.
- Port 8800, this machine only: The programming interface, for the `arcsecond` command and scripts run on the machine itself.
- Port 8765, every interface: Relays webcam and all-sky camera images to the installation. Runs only when cameras are registered. Optional.

WHAT IT CONTACTS

Required. Outbound, encrypted.

<code>licensing.arcsecond.io</code>	443	Licence activation and daily check
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Public catalogues and lookups. Outbound, encrypted. The installation runs without them, with less to show.

<code>exoplanetarchive.ipac.caltech.edu</code>	443	Exoplanets and transits (NASA archive)
<code>ogle.astrouw.edu.pl</code>	443	Microlensing candidates (OGLE)
<code>minorplanetcenter.net</code> , <code>cgi.minorplanetcenter.net</code>	443	Near-Earth object candidates
<code>celestrak.org</code>	443	Satellite orbits
<code>simbad.cds.unistra.fr</code>	443	Object names and coordinates (SIMBAD)
<code>timezonedb.com</code>	443	Time-zone table refresh
<code>statics.arcsecond.io</code>	443	Sky darkness of a site
<code>ssd.jpl.nasa.gov</code> , <code>ssd-api.jpl.nasa.gov</code>	443	Comet and asteroid positions
<code>skyview.gsfc.nasa.gov</code>	443	Finding charts (NASA SkyView)
<code>datacenter.iers.org</code> , <code>maia.usno.navy.mil</code> , <code>hpiers.obspm.fr</code> , <code>data.iana.org</code>	443	Earth rotation tables

Only when you turn the feature on. Outbound. Nothing here is contacted by a default installation.

<code>scixplorer.org</code>	443	Papers about a target
<code>auth.gcn.nasa.gov</code>	443	Transient alerts: sign-in
<code>kafka</code> , <code>kafka1</code> , <code>kafka2</code> , <code>kafka3</code> <code>.gcn.nasa.gov</code>	9092	Transient alerts: the feed
<code>api.tomorrow.io</code>	443	Weather forecast
<code>www.wis-tns.org</code>	443	Transient Name Server lookups
a server you choose	445, 22, 21 or 443	Copies to a storage you attach
a server you choose	587, 465 or 25	Email through your mail server

To install and to update. Outbound, encrypted. Not needed while running.

<code>ghcr.io</code> , <code>pkg-containers.githubusercontent.com</code>	443	Arcsecond.local itself
<code>registry-1.docker.io</code> , <code>auth.docker.io</code> , <code>production.cloudflare.docker.com</code>	443	Database and message broker
<code>pypi.org</code> , <code>files.pythonhosted.org</code>	443	The <code>arcsecond</code> command

From your users' browsers. Outbound, encrypted, from their workstations, not from the installation.

<code>server.arcgisonline.com</code> , <code>tile.openstreetmap.org</code> , <code>global.ssl.fastly.net</code> , <code>api.maptiler.com</code>	443	Map backgrounds
<code>alasky.cds.unistra.fr</code> , <code>alaskybis.cds.unistra.fr</code> , <code>alasky.unistra.fr</code> , <code>skyview.gsfc.nasa.gov</code>	443	Sky survey pictures
<code>statics.arcsecond.io</code>	443	Light-pollution layer, illustrations

On your local network only. Never leaves the site.

addresses you enter	set per device	Telescopes, domes, cameras, weather
a broadcast on your network	32227 (datagram)	Finding instruments on the network
addresses you enter	554, 80 or 443	Webcams and all-sky cameras

WHAT NEVER LEAVES THE SITE

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| <ul style="list-style-type: none">• Images and data files• Night logs, sessions and observing conditions• Equipment configuration and instrument state | <ul style="list-style-type: none">• Accounts, passwords and access keys of the installation's users• Usage statistics, error reports or any other telemetry |
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IF THE CONNECTION IS CUT

An activated installation keeps operating with no outside connection at all: instrument control and data recording are local. It only does without the lookups listed above.

CHECK IT YOURSELF

- Run `arcsecond doctor` on the machine: it tests every destination above and sends nothing about your observatory. `arcsecond doctor --report` writes the result to a file for your records.
- This sheet is generated from the software's own network manifest (audited 2026-10-05); the current version is at `docs.arcsecond.io/reference/network`.
- Security questions: `team@arcsecond.io`