TRIM and Syncthing for automated offsite backups

Please see Tiki Manager and Syncthing for automated offsite backups instead as Tiki Manager replaced TRIM.

This page is kept for posterity.

Use case: I have some Tiki instances on ClearOS and I want automatic backups of different Tiki instances to various local computers for safekeeping. These are high level instructions as to how to combine TRIM and Syncthing to do so. For a hosting company and its customer, this is the optimal solution: This permits a customer to delegate the hosting / management of an application while obtain automatic backups of their application and data.

At a high level:

1. TRIM (installed on the same server) will make incremental and automated backups of each site to a distinct folder
2. Syncthing will securely copy each folder to one or many devices.

Benefits / Features

- Automated (unattended): put TRIM backups on a cron job
- Incremental while being somewhat efficient for disk space : TRIM has a retention cycle: keep last 7 days, last 4 weeks and once per month forever
- Remote backup to any number of devices: Syncthing is designed for peer-to-backups
- Managed via a web interface (Syncthing)
- Web interface can be protected by 2-factor authentication (in addition to password)
- Data is encrypted in transport by Syncthing
- Cross-platform: Syncthing supports GNU/Linux, Windows, OSX, Android, *BSD, Solaris
  - The Syncthing Lite Android app even lets you access files on-demand. So you don'
- Devices can be behind the firewall, and without a fixed IP address. Ex.: Syncthing on your laptop
- Throttling: Can set Incoming and Outgoing Rate Limit (KiB/s)
- Backup Tiki, the database and even files that are outside the web root: TRIM checks the Tiki database to know which directories to fetch, if any.
- Designed to cope with a Ransomware attack (see recipe below)
- Flexible multi-site design: Each Tiki is backed up in own folder providing flexibility on what to send where.
- Easy to restore: backups are in a format that can be restored by TRIM with the make restore command.
- Avoid disk full issues: Syncthing will halt before filling up 100% of your disk. (TRIM still needs this added). TODO: Add alerting to both

Weaknesses:

- This recipe is not particularly efficient for bandwidth or disk-space. Ex.: there is no deduplication algorithm

ClearOS as web server

Install each Tiki as a distinct website using sub-domains: How to set up websites on ClearOS

Good:

- example.org
- example.com
- projecta.example.org
- projectb.example.org

Bad:

- example.org/projecta/
- example.org/projectb/

Setup TRIM

Install TRIM in /var/local/trim as per https://doc.tiki.org/TRIM#How_to_download_and_use

Use TRIM to make instances, or adopt them

- Use **local** with these instructions: How to install Tiki with TRIM

Configure TRIM to backup your Tiki instances

https://doc.tiki.org/TRIM#make_backup

The TRIM archive folders have the following pattern:

- /var/local/trim/backup/archive/1-example.org/
- /var/local/trim/backup/archive/2-example.com/
- etc.

Check that your backup is OK, and move on to the next step

Set up automatic backups

TRIM will make the backups and also has a retention cycle (keep last 7 days, last 4 weeks and once per month forever)

Of all the instances

https://doc.tiki.org/TRIM#To_setup_automated_backups

For just one of the instances

[+]

Install Syncthing

On the server

- How to install Syncthing on ClearOS

You can install many instances of Syncthing, but there is not yet a good way to segment permissions. So it's better to create one master Syncthing user. Ex.: tikisyncthingbackup and manage all the backups from that account. Do not give that passwords to customers.

https://example.org:81/
u: tikibackupsviasyncthing
p: superstrongpassword

then visit https://example.org:81/syncthing/ (it may ask login again in basic auth)

On your laptop

- Install Syncthing for your local computer: https://docs.syncthing.net/intro/getting-started.html#installing

Setup Syncthing

- Connect the devices and setup shared folders as per https://docs.syncthing.net/intro/getting-started.html

Make sure Syncthing automatically restarts when you reboot so that you have unattended automatic backups. Just reboot to see if it's OK. If not, you need to look up the documentation for your Operating System.

Configuring Syncthing for your Tiki archive folder

You archives will be in something like /var/local/trim/backup/archive/1-example.org/: so sync that folder with your local computer.

Setting up Syncthing for backups

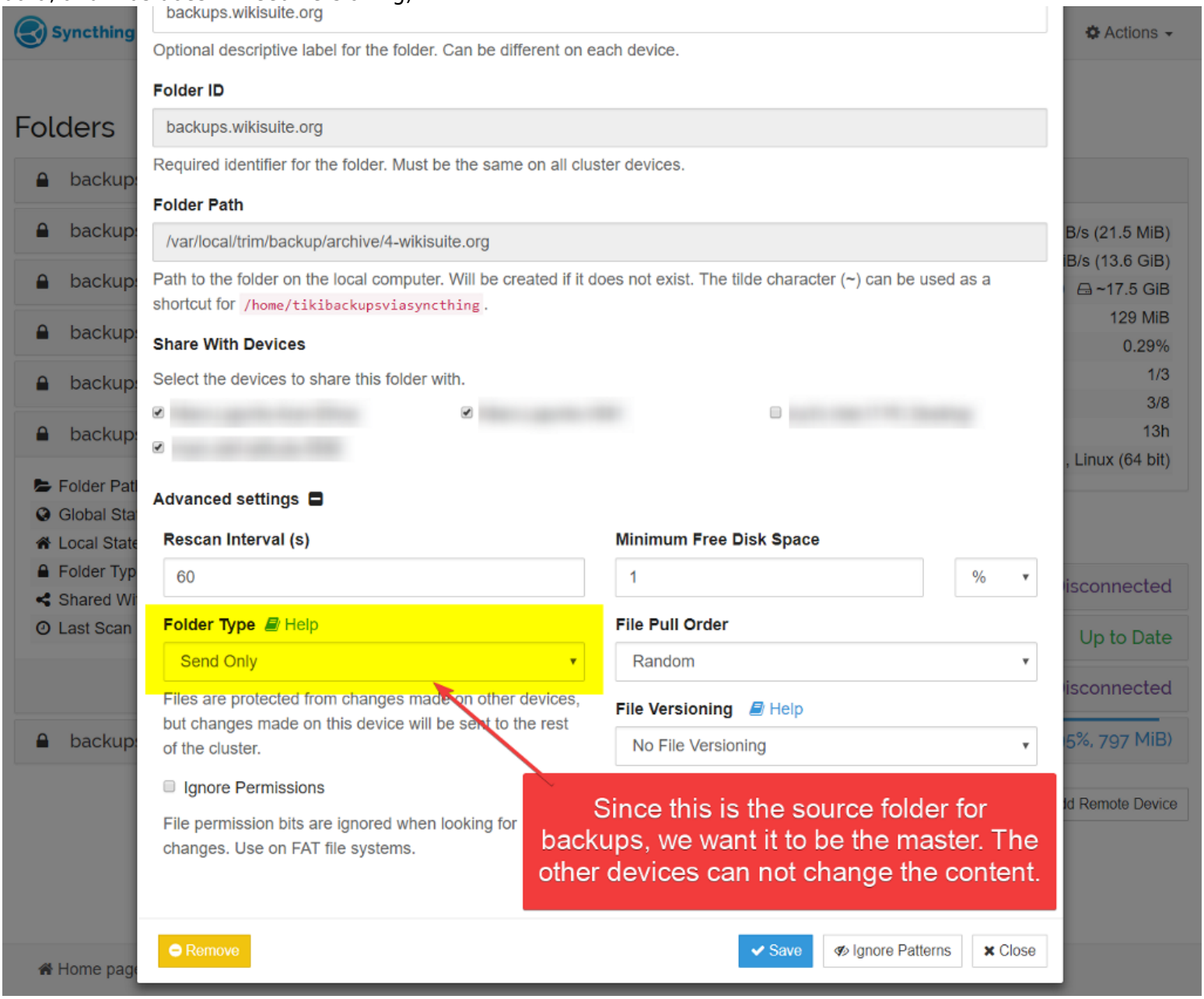
Syncthing by default is set to sync multiple folders so they get to the exact same set of files and folders. So if you delete a file in one folder, the deletion is propagated. In the contexts of backups, this could cause issues. Examples:

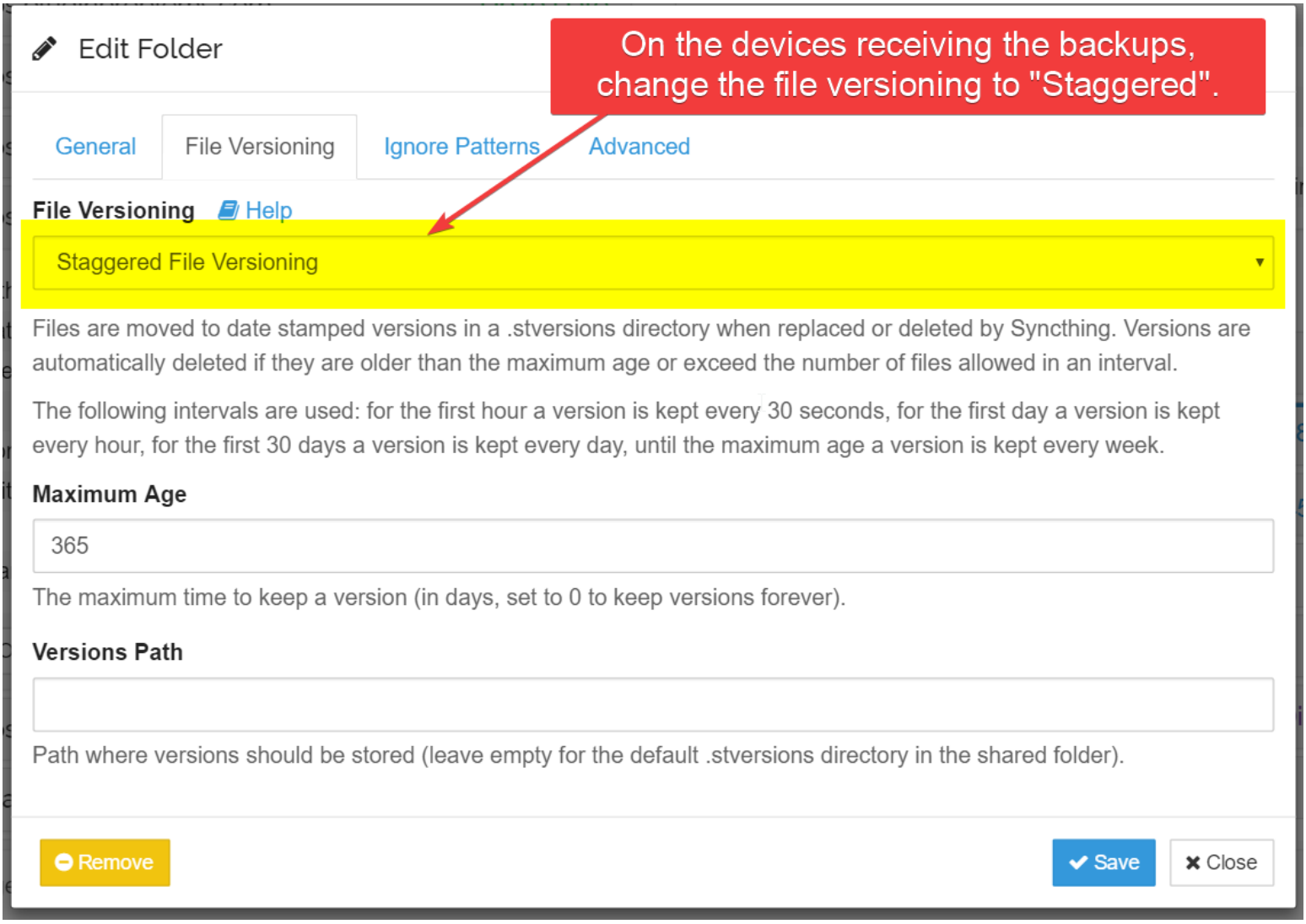
- Ransomware on any device: Then, all the devices would receive the corrupted data which replaces the valid data.
- One of the devices runs out of space, and its user decides to clear out old backups.

The solution is:

1. On the device sending the backups: set Folder Type to "Send Only"
2. On the device(s) receiving the backups: set File Versioning. Recommended setting is "Staggered"

Because the master server is set to "Send Only", there is no point in setting to "Staggered" (It doesn't receive any data, and thus doesn't need versioning).





Troubleshooting

- If sync is not working as expect, check the Syncthing folder interface for errors.