

Basics of a Free Software Mirror

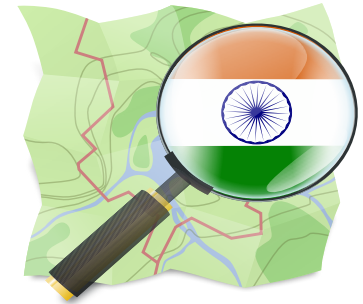
Sahil Dhiman

KDE Conf India, 4-6 April

whoami

Sahil Dhiman

- Do network and infrastructure at
- Writes at <https://blog.sahilister.in>
- Community affiliations
 - Debian Developer non uploading
 - OSM India/Delhi



Mirrors I run

- <https://mirrors.in.sahilister.net> in India – hosting KDE, VLC, LibreOffice etc – pushing 900 GB+/day
- <https://mirrors.de.sahilister.net> in Germany – hosting Blender, GIMP, Termux etc. – pushing 2.5 TB+/day

We'll talk about

- Free Software
- Mirrors
- Trends etc.
- How you can do it too (hint – lots of b/w)

Free Software

User is free to run, copy distribute, study, change and improve

<https://www.gnu.org/philosophy/free-sw.html>

Free Software is community goods.

Community develops, support and help
distribute it (we'll talk about this today!)



https://itsmeh.com/chirag_sukhala

wants





<https://krita.org>

Krita is a professional FREE and open source painting program. It is made by artists that want to see affordable art tools for everyone.

DOWNLOAD



<https://download.kde.org/stable/krita/5.2.9/krita-5.2.9-release.dmg>

→ Mirrorbits → HTTP 301 or 302

What Mirrorbit sees – *client info*

- What to download – *we want krita*
- IP – *a public IP*
- GeoIP – *rough location*
- Nearest mirror – *run by a stranger on the internet*

What Mirrorbit *has* – *mirrors side*

- List of available mirrors – *mirrorlist*
- Mirror IPs – *a public IP*
- Mirror GeoIP – *rough location*
- What mirror carry – *is krita available?*
- Weight – *how much traffic it can handle*

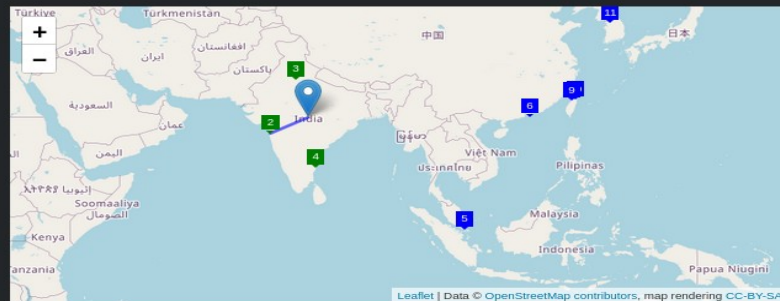


/stable/krita/5.2.9/krita-5.2.9-release.dmg

Client

You are connecting with IP address *14.195.69.246*, which belongs to autonomous system *Tata Teleservices ISP AS (ASN45820)*.

We believe you are somewhere in *India* and have selected mirrors based on this.



File

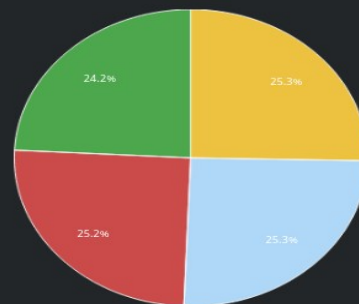
The file */stable/krita/5.2.9/krita-5.2.9-release.dmg* has a size of 351.8 MB (368909212 bytes) and was last modified on Mon, 27 Jan 2025 15:14:53 UTC.

Known hashes:

MD5 d140b100664ba8961e7944d587477a07

SHA1 8cbec504a06ada36d27629d548dbc09b10386871

SHA256 fff90ce72124029fc57e0f2225980ec6a6c5146b0c41b36eeb501d4a43965a6a



sahilister.net
albony.in
mirrors.saswata.cc
mirror.maa.albony.in

Mirrors

Rank	Mirror Name	URL	Country	Continent	Distance	Selection
1.	Sahil Dhiman	https://mirrors.in.sahilister.net/kde/	IN	AS	715 Km	25%
2.	Albony Mirror	https://mirror.nag.albony.in/kde/	IN	AS	715 Km	25%
3.	Saswata Sarkar	https://mirrors.saswata.cc/kde/	IN	AS	745 Km	25%
4.	mirror.maa.albony.in	https://mirror.maa.albony.in/kde/	IN	AS	1020 Km	24%

<https://download.kde.org/stable/krita/5.2.9/krita-5.2.9-release.dmg?mirrorlist>

Who runs mirrors?

- Individuals
- Universities
- Datacenter and ISPs
- Enterprises

North India

- Bharat Datacenter - mirror.bharatdatacenter.com (AS151704)
- Cyfuture - cyfuture.dl.sourceforge.net (AS55470)
- Extreme IX - repo.extreme-ix.org | repos.del.extreme-ix.org (AS135814)
- Hopbox - mirrors.hopbox.net (AS10029 | [Statistics](#))
- IIT Delhi - mirrors.iitd.ac.in (AS132780)
- Institute of Engineering and Technology Lucknow - mirror.ietlucknow.ac.in (AS55824)
- Naman Garg - in-mirror.garudalinux.org (AS133661)
- NKN - debianmirror.nkn.in (AS4758)
- Nxtgen - mirrors.nxtgen.com (AS132717)
- Saswata Sarkar - mirrors.saswata.cc (AS132453 | [Statistics](#))
- Shrirang Kahale - mirror.del.albony.in (AS135814 | [Statistics](#))
- Shiv Nadar Institution of Eminence - ubuntu-mirror.snu.edu.in (AS132785)

East India

- NISER Bhubaneshwar - mirror.niser.ac.in (AS141288)
- Shrirang Kahale - mirror.ajl.albony.in (AS141253 | [Statistics](#))

<https://blog.sahilister.in/2024/10/free-software-mirrors-in-india/>

South India

- Cogan Ng - in.mirror.coganng.com (AS31898)
- CUSAT - foss.cusat.ac.in/mirror (AS55824)
- Excell Media - centos-stream.excellmedia.net | excellmedia.dl.sourceforge.net (AS17754)
- IIT Madras - ftp.iitm.ac.in (AS141340)
- Niranjan Fartare - in.arch.niranjan.co (AS141340 | [Statistics](#))
- NIT Calicut - mirror.nitc.ac.in (AS55824 | [Statistics](#))
- NKN - mirrors-1.nkn.in (AS148003)
- Planet Unix - mirror.planetunix.net | ariel.in.ext.planetunix.net (AS14061)
- Shrirang Kahale - mirror.hyd.albony.in (AS24560 | [Statistics](#))

<https://blog.sahilister.in/2024/10/free-software-mirrors-in-india/>

West India

- Abhijith PA - mirrors.abhijithpa.in (AS141995 | Statistics)
- Abhinav Krishna C K - mirrors.abhy.me (AS31898 | Statistics)
- Arun Mathai - mirrors.arunmathaisk.in (AS141995 | Statistics)
- Avinash Duduskar - mirror.4v1.in (AS24560)
- Balvinder Singh Rawat - mirror.ubuntu.bsr.one (AS31898)
- ICTS - cran.icts.res.in (AS134322)
- Navaneeth - mirror.fossindia.ovh (AS141995)
- PicoNets-WebWerks - mirrors.piconets.webwerks.in | webwerks.dl.sourceforge.net (AS133296)
- Ravi Dwivedi - mirrors.ravidwivedi.in (AS141995 | Statistics)
- Sahil Dhiman - mirrors.in.sahilister.net (AS141995 | Statistics), 2.mirrors.in.sahilister.net (AS141995 | Statistics)
- Shrirang Kahale - mirror.bom.albony.in (AS24560 | Statistics), mirror.bom2.albony.in (AS135814 | Statistics), mirror.nag.albony.in (AS24560 | Statistics)
- Starburst Services - elrepo.in.ssimn.org (AS141995)
- Utkarsh Gupta - mirrors.utkarsh2102.org (AS31898 | Statistics)

<https://blog.sahilister.in/2024/10/free-software-mirrors-in-india/>

CDN (or behind one)

- Alibaba Cloud - mirrors.aliyun.com (AS21859)
- AlmaLinux OS Foundation - blr.aws.repo.almalinux.org (AS16509)
- Amazon Cloudfront - cdn-aws.deb.debian.org (AS16509)
- Chirag Sukhala - mirrors.sukhala.in (AS13335 | [Statistics](#))
- Cicku - in.mirrors.cicku.me (AS13335)
- CIQ - rocky-linux-asia-south1.production.gcp.mirrors.ctrlq.cloud | rocky-linux-asia-south2.production.gcp.mirrors.ctrlq.cloud (*GeoIP doubtful. Could be behind a CDN or single node*) (AS396982)
- Cloudflare - cloudflare.cdn.openbsd.org | kali.download (AS13335)
- Fastly - cdn.openbsd.org | deb.debian.org | dlcdn.apache.org | dlcdn.alpinelinux.org | fastly.linuxmint.io | images-cdn.endlessm.com (*sponsored?*) | repo-fastly.voidlinux.org (AS54113)
- Niranjana Fartare - termux.niranjana.co (AS13335)
- Sahil Kokamkar - mirror.sahil.world (AS13335)
- Tencent - mirrors.cloud.tencent.com (AS21859)

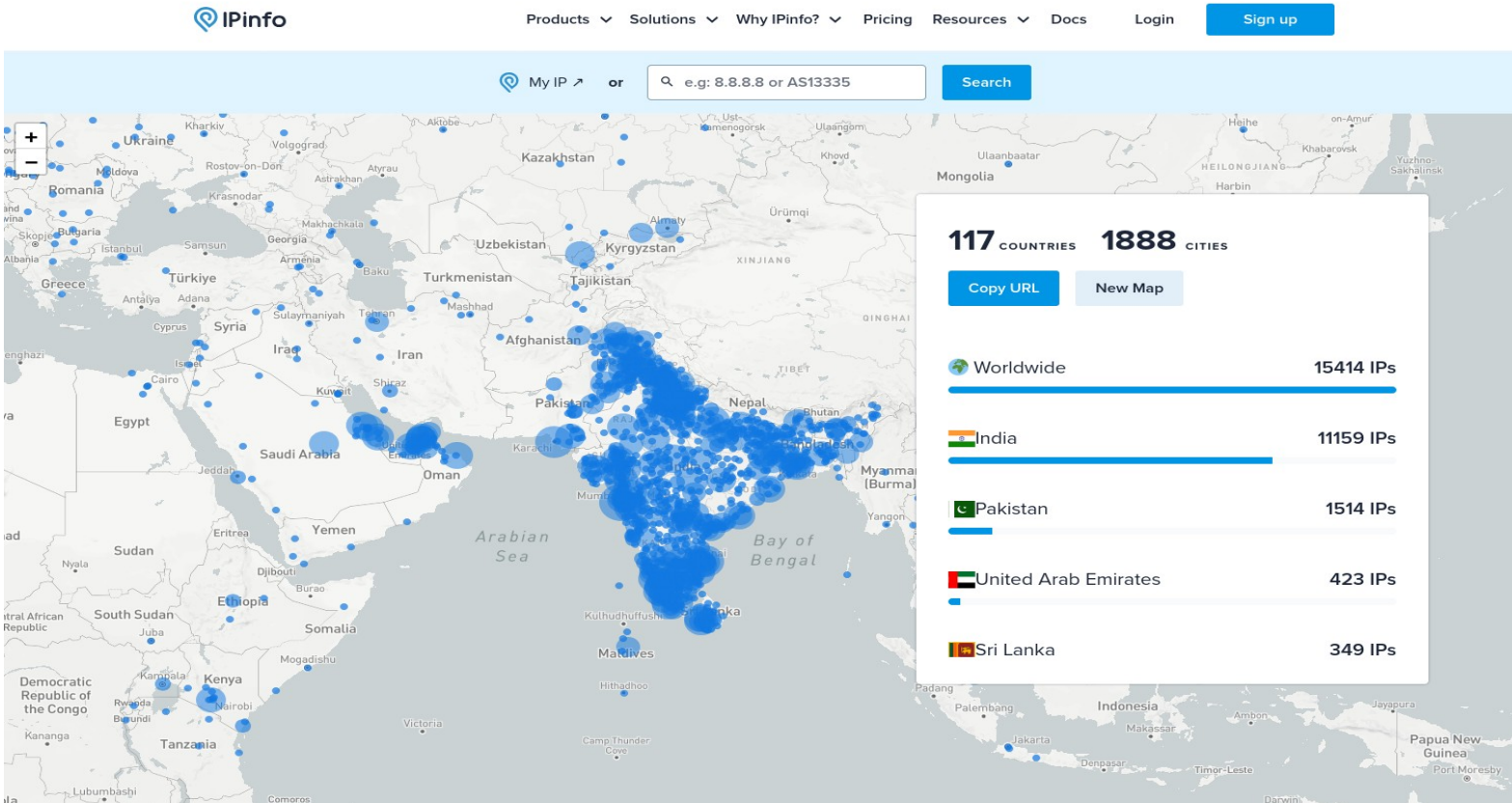
<https://blog.sahilister.in/2024/10/free-software-mirrors-in-india/>

How it's done

- rsync + cron – to get data/static files
- A webserver (nginx good!)
- Lots of bandwidth (~ 60 GB/day for KDE mirror in IN)
- Need <https://files.kde.org/?mirrorstats>

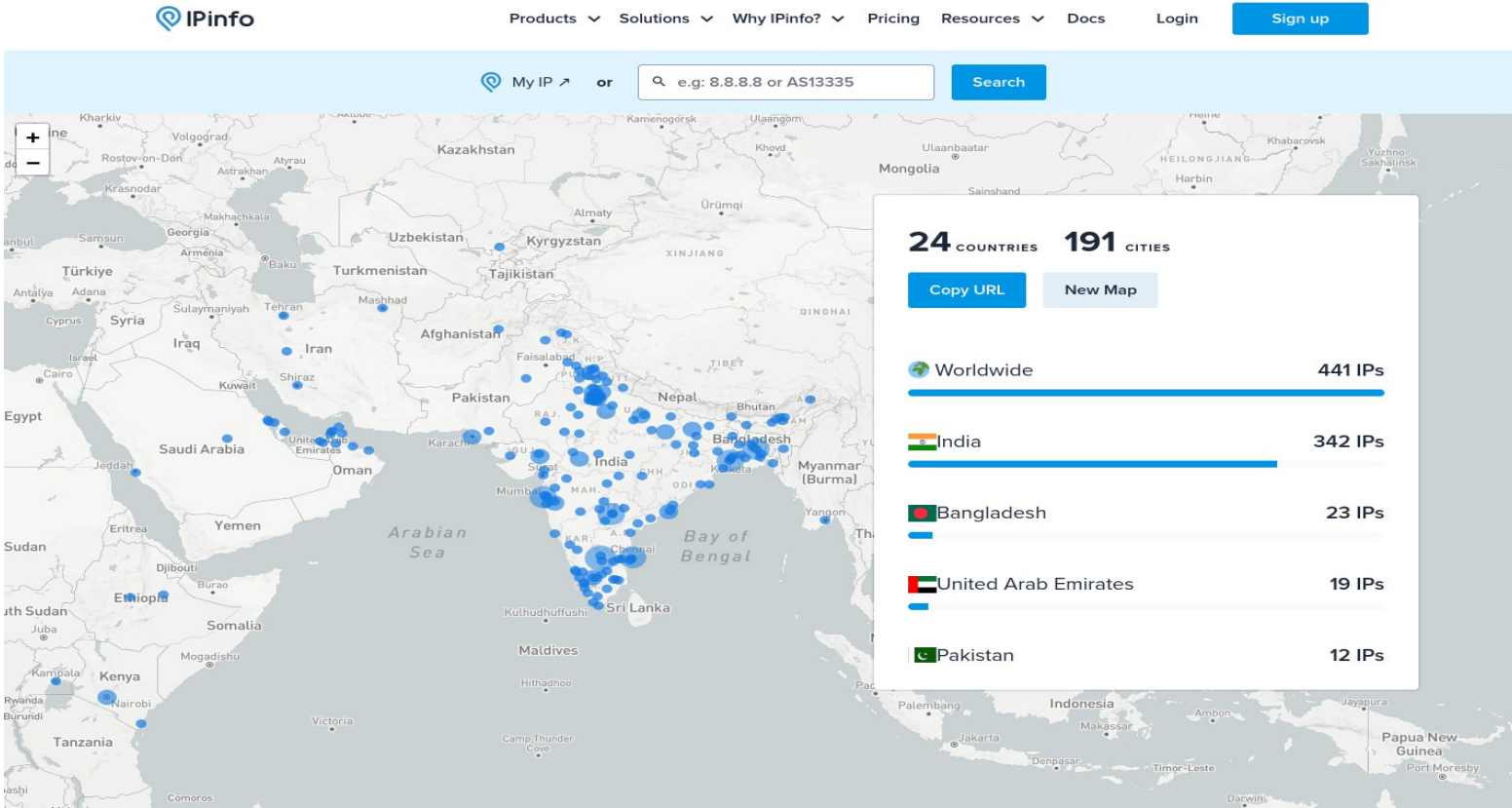
Let's talk operational trends

India mirror traffic GeolP visualization



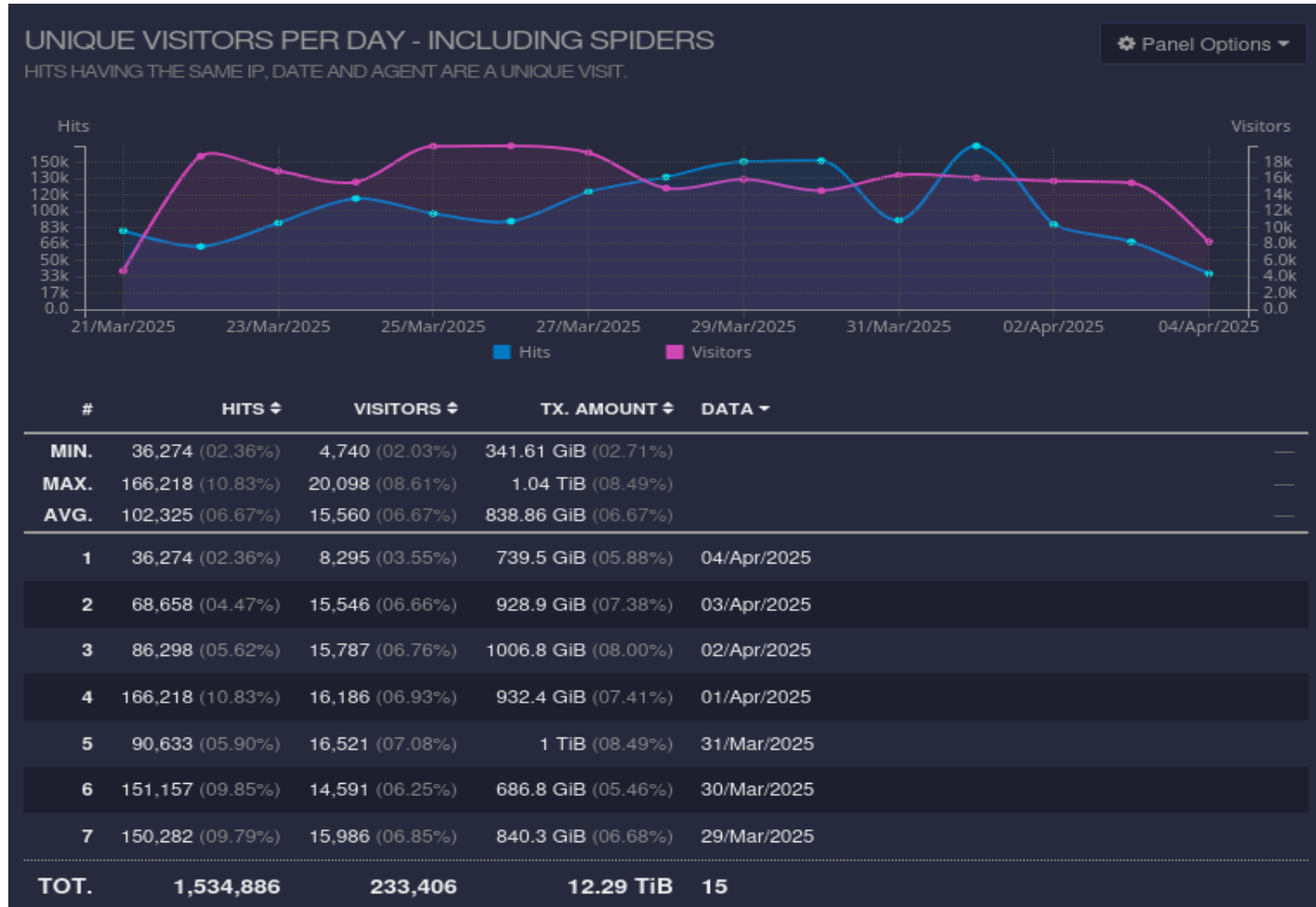
Full map at <https://ipinfo.io/tools/map/97db4110-d56a-404c-8f15-8963b2e1d1ea>

KDE mirror traffic GeoIP visualization



Full map at <https://ipinfo.io/tools/map/8bdd2f6a-91fb-4041-8b32-70f425e5668c>

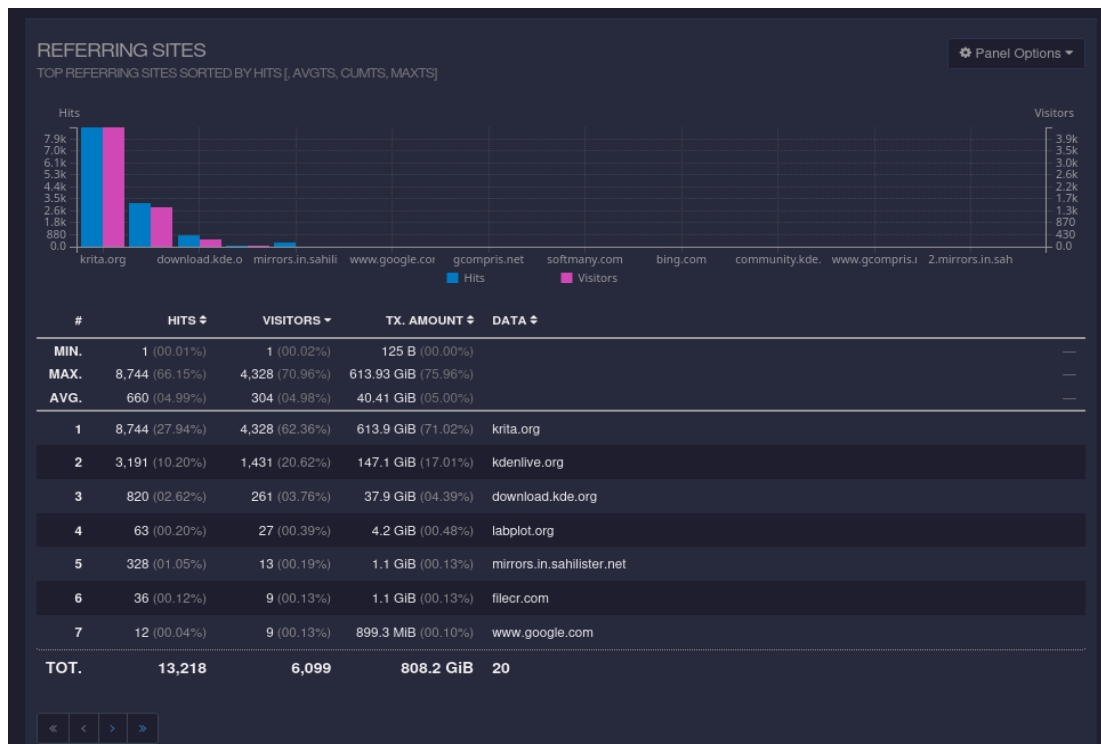
Some download trends*



From <https://mirrors.in.sahilister.net/stats/overall.html>

* basis mirror traffic on my IN mirror

Some KDE download trends*



From <https://mirrors.in.sahilister.net/stats/kde.html>

* basis KDE stable mirror traffic on my IN mirror

Why?

Read more

- KDE mirrors how to https://kde.org/mirrors/ftp_howto/
- Official KDE mirrors <https://download.kde.org/?mirrorstats>
- KDE application data mirrors <https://files.kde.org/?mirrorstats>
- Free Software mirrors in India
<https://blog.sahilister.in/2024/10/free-software-mirrors-in-india/>
- First Iteration of My Free Software mirror
<https://blog.sahilister.in/2024/06/first-iteration-of-my-free-software-mirror/>

Thank you!

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