



Getting the Bits Out: Fedora MirrorManager

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Fedora MirrorManager Goal

Provide an
extensible Content Distribution System
delivering current Fedora and EPEL bits
to all users worldwide
quickly and inexpensively
using only Free / Open Source Software.

MirrorManager Audiences

- > 2 Million End Users
- > 300 Mirror Server Administrators
- Fedora Infrastructure Managers

Audience Goals

End Users

- Current content
- Fast downloads
- Inexpensive

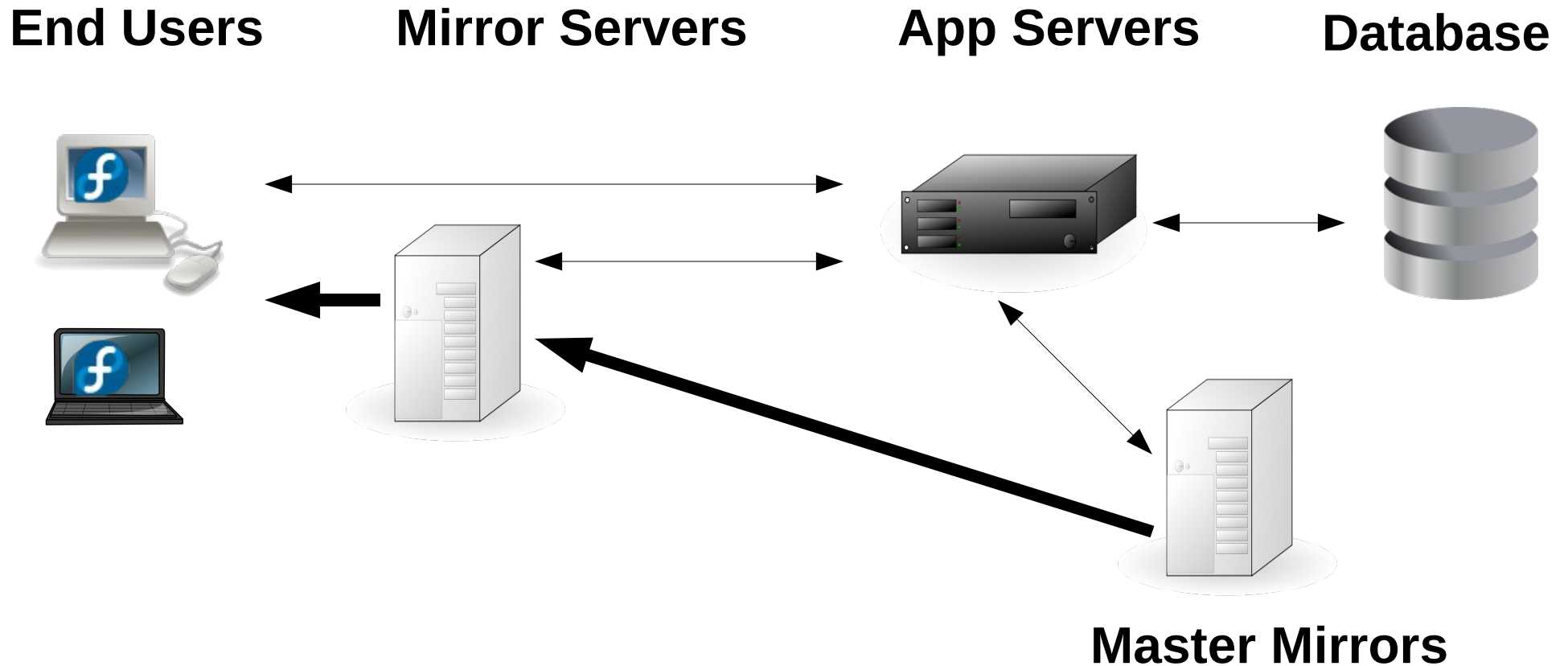
Mirror Admins

- Serve local users quickly and inexpensively
- To selected end users
- Carry only the content they want
- Convenient protocols: HTTP, FTP, RSYNC

Fedora Infrastructure Team

- Use mirrors to reduce Fedora Data Center bandwidth required
- Where are the users?
Where are the mirrors?
- Which mirror servers have what content?
- What protocols does each mirror serve?

Architecture and Data Flow



End User Interaction

1-click ISO Downloads

- http://download.fedoraproject.org/pub/fedora/linux/releases/9/Live/x86_64/Fedora-9-x86_64-Live.iso

YUM in Fedora and EPEL “just works”

- http://mirrors.fedoraproject.org/mirrorlist?repo=fedora-9&arch=x86_64

Additional options you can pass:

country=us,ca,mx - return mirrors in these countries

country=global - return all public mirrors

ip=18.0.0.01 - return mirrors for given IP

Mirror Selection Algorithm

Same IP Network block (e.g. 18.0.0.0/8)

Client on Internet2? -> Server on Internet2 in same country

Same Country

Same Continent

Any Global Mirror

Country & Continent information provided by MaxMind
GeoLite database

Setting Up Your Own (Private) Fedora Mirror

Disk Space: 200GB – 1TB

rsync from a public mirror

- <http://mirrors.fedoraproject.org>

Create an account in the Fedora Account System

- <https://admin.fedoraproject.org/accounts>

Create a Site in MirrorManager

- <https://admin.fedoraproject.org/mirrormanagement>

Profit!

Public Mirrors

Disk Space: 600GB – 1TB

Bandwidth: 100Mbit/sec or faster in most countries

- Internet2 / Research & Educational connections welcome
- Major ISPs especially welcome

rsync from a Fedora Tiered mirror

- <http://fedoraproject.org/wiki/Infrastructure/Mirroring/Tiering>

Your organization name / URL linked on mirrors page

MirrorManager Software Components

Python TurboGears application, custom written for Fedora, but extensible

Apache + mod_python applet to serve yum mirrorlists

Apache + static files to serve text mirror lists

Database to store mirror content metadata (who has what)

Web crawler discovers content on public mirrors and updates database

report_mirror script run by mirror servers updates database

How you can contribute!

Recruit new mirrors, in under-served regions

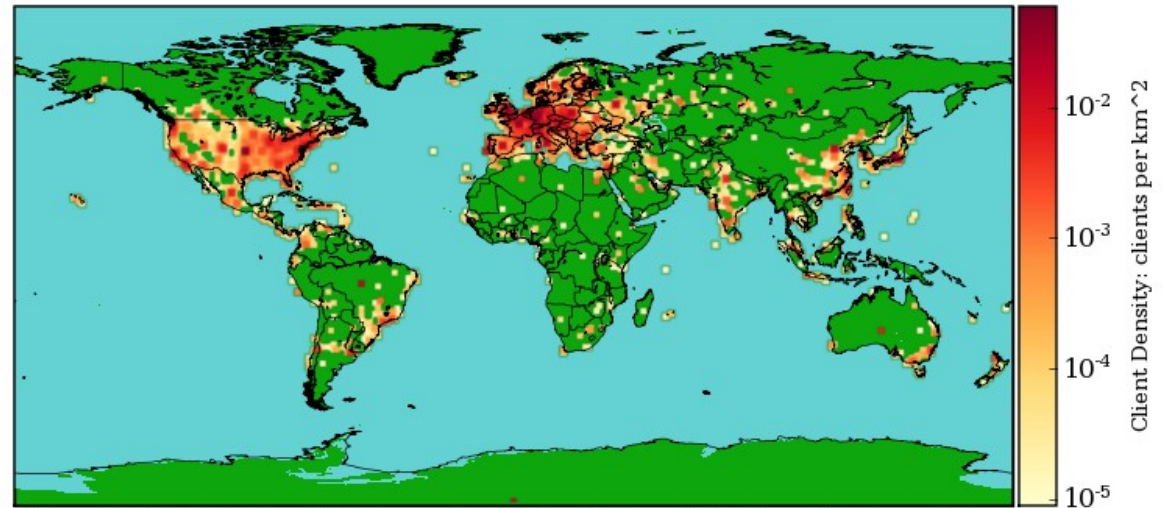
- China, India, Russia, Brazil, Africa



Mirrorlist Activity in Past 7 Days for f9 - Last Modified 2008-05-30 12:17:08 GMT - 85356 entries

Python coding

General Fedora
Infrastructure help



This product includes GeoLite data created by MaxMind, available from <http://maxmind.com/>

Useful Links

Getting Started:

<http://fedoraproject.org/wiki/Infrastructure/Mirroring>

Source Code:

<http://fedorahosted.org/mirrormanager>

Questions?

#fedora-admin on FreeNode

mdomsch@fedoraproject.org

Backup



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FEDORA WEBSITES

- [Fedora Home](#)
- [Docs](#) Fedora documentation
- [Wiki](#) Collaborative knowledge
- [Planet](#) The voices of the community
- [People](#) Community webpages

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Mirror server administrators are not required to sign the Fedora [Contributor License Agreement](#).

Export Compliance

Because Fedora software contains encryption technology, Fedora software and technical information is subject to the U.S. Export Administration Regulations and other U.S. and foreign law, and may not be exported or re-exported to certain countries (currently Cuba, Iran, Iraq, North Korea, Sudan and Syria) or to persons or entities prohibited from receiving U.S. exports (including those (a) on the Bureau of Industry and Security Denied Parties List or Entity List, (b) on the Office of Foreign Assets Control list of Specially Designated Nationals and Blocked Persons, and (c) involved with missile technology or nuclear, chemical or biological weapons). You may not download Fedora software or technical information if you are located in one of these countries, or otherwise affected by these restrictions. You may not provide Fedora software or technical information to individuals or entities located in one of these countries or otherwise affected by these restrictions. You are also responsible for compliance with foreign law requirements applicable to the import and use of Fedora software and technical information.

Site Name

Site Password

used by report_mirrors script, you make this anything you want

Organization URL

Company/School/Organization URL e.g.

http://www.redhat.com

Private

e.g. Not available to the public

Admin_active

Clear to temporarily disable this site.

User_active

Clear to temporarily disable this site.

All sites can pull from me?

Enable all mirror sites to pull from me without explicitly adding them to my list.

Comments for downstream siteadmins.



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Create Host

Host Name	<input type="text"/>	Name of server as seen by a public end user
Admin_active	<input checked="" type="checkbox"/>	Clear to temporarily disable this host
User_active	<input checked="" type="checkbox"/>	Clear to temporarily disable this host
Country	<input type="text"/>	2-letter ISO country code
Private	<input type="checkbox"/>	e.g. not available to the public, an internal private mirror
Internet2	<input type="checkbox"/>	on Internet2
Internet2_clients	<input type="checkbox"/>	serves Internet2 clients, even if private
Robot_email	<input type="text"/>	email address, will receive notice of upstream content updates
Bandwidth	<input type="text"/>	text, how much bandwidth you might be able to offer to a public end user
Comment	<input type="text"/>	text, anything else you'd like a public end user to know about your mirror
<input type="button" value="Save Host"/>		



Fedora/9 Public Active Mirrors (134)

Country	Site	Host	Content	Bandwidth	I2	Comments
AT	Fedora Mirror	fedora.inode.at	Fedora Linux http		No	
AT	Fedora Mirror	gd.tuwien.ac.at	Fedora Linux http ftp		Yes	
AT	Zero42	fedora.zero42.at	Fedora Linux http	100MBit	No	
AU	monash.edu.au	ftp.monash.edu.au	Fedora Linux http ftp	10Mb/sec	Yes	
AU	iinet.net.au	ftp.iinet.net.au	Fedora Linux http ftp rsync	100Mb	No	fastest fedora updates for iinet users
AU	Internode	mirror.internode.on.net	Fedora Linux http ftp rsync	400mbits	No	
AU	3FL Mirror	mirror.3fl.net.au	Fedora Linux http ftp rsync	100Mb	No	
AU	Fedora Mirror	mirror.aarnet.edu.au	Fedora Linux http		Yes	
AU	NetCraft Australia	ftp.netcraft.com.au	Fedora Linux ftp		No	
AU	OptusNet	mirror.optus.net	Fedora Linux http	100 Mb/s	No	
AU	Pacific Internet (Australia)	mirror.pacific.net.au	Fedora Linux http ftp	120Mbps	No	HTTP, FTP and RSYNC available
BE	Fedora Mirror	ftp.belnet.be	Fedora Linux http ftp		Yes	
BG	fedora.linuxman.biz	fedora.linuxman.biz	Fedora Linux http	50Mbps	No	Fedora mirror for BG users
BR	fedora.c3sl.ufpr.br	fedora.c3sl.ufpr.br	Fedora Linux http ftp rsync	1 Gb/s	Yes	
CA	ftp.muug.mb.ca	ftp.muug.mb.ca	Fedora Linux http ftp rsync	100Mb/s	Yes	CA*net connection