

Development tools

Toomas Rõmer

ZeroTurnaround

<http://dow.ngra.de>

<http://twitter.com/toomasr>

<http://wherethehellaremyglasses.com>

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Agenda

- Software projects
- Building (ant/gant/rake/make/bash)
- VCS (svn/git/mercurial/monotone/darcs)
- Issue tracking (bugzilla/fogbugz/jira/youtrack)
- Continuous integration (hudson/bamboo)
- IDE

End-User


Azureus - now called Vuze - Bittorrent Client

[Home](#) | [Download](#) | [Upgrade](#) | [Getting Started](#) | [Wiki](#) | [Forums](#) | [Support](#) | [Vuze.com](#) | [Beta](#)



Find, Download, Play

Full screen HD Video. Anytime, anywhere.

 **DOWNLOAD VUZE**
Version 4.3 (PC)
Free

Find torrents easily

- Powerful torrent meta-search with login support for private trackers
- Discover high quality content on the Vuze HD network

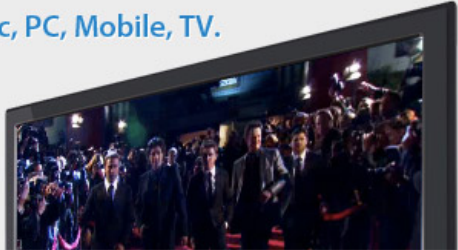
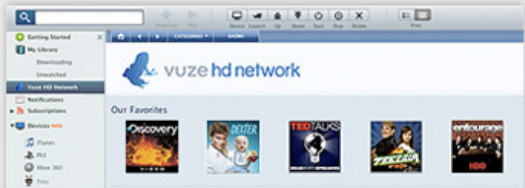
Download fast

- Download quickly and efficiently with intelligent bandwidth, queue and speed management


Play on all your screens

- Sit back and savor the high-quality entertainment experience
- Now on iPhone, iPod, Apple TV, Xbox 360, Playstation 3, PSP and TiVo

Find, Download, Play. Mac, PC, Mobile, TV.




Awards



SourceForge 2007 Community Awards Winner: Most Collaborative Project

SourceForge 2006 Community Awards Winner: Best Overall Category




Red Herring Global 100

Need Help?


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[FAQs](#)


Many Thanks to:



YourKit



FISHEYE




FORTIFY

ej-technologies

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 **ZEROTURNAROUND**

End-User



This type of file can harm your computer. Are you sure you want to download Vuze_Installer.exe?

Save

Discard

End-User

The screenshot displays the Azureus torrent client window. The title bar reads "Azureus". The menu bar includes "File", "Transfers", "View", "Tools", "Plugins", and "Help". The toolbar contains icons for file operations and network settings. The main window shows a single torrent titled "My Torrents" with a progress bar at 41.5% and a seed count of 58,999. The "Transfer" section provides detailed statistics on time elapsed, download/upload speeds, and peer counts. The "Info" section lists file name, save path, hash, size, and tracker information. The status bar at the bottom shows the client version (2.2.0.0), current time, IP addresses, and active download/upload rates.

Downloaded: 41.5 %

Availability: 58,999

Transfer

Time Elapsed :	1h 20m	Remaining:	1h 59m 1.32 GB	Share Ratio :	0.134		
Downloaded :	969.7 MB (560.0 kB discarded)	Download Speed:	211.1 kB/s	Hash Fails :	8 (~ 2.0 MB)		
Uploaded :	130.1 MB	Upload Speed :	33.9 kB/s	Max Uploads :	4	Max Up kB/s:	0
Seeds :	53 connected (60 in swarm)	Peers :	28 connected (39 in swarm)	Total Speed :	2.6 MB/s	Max Down kB/s:	0

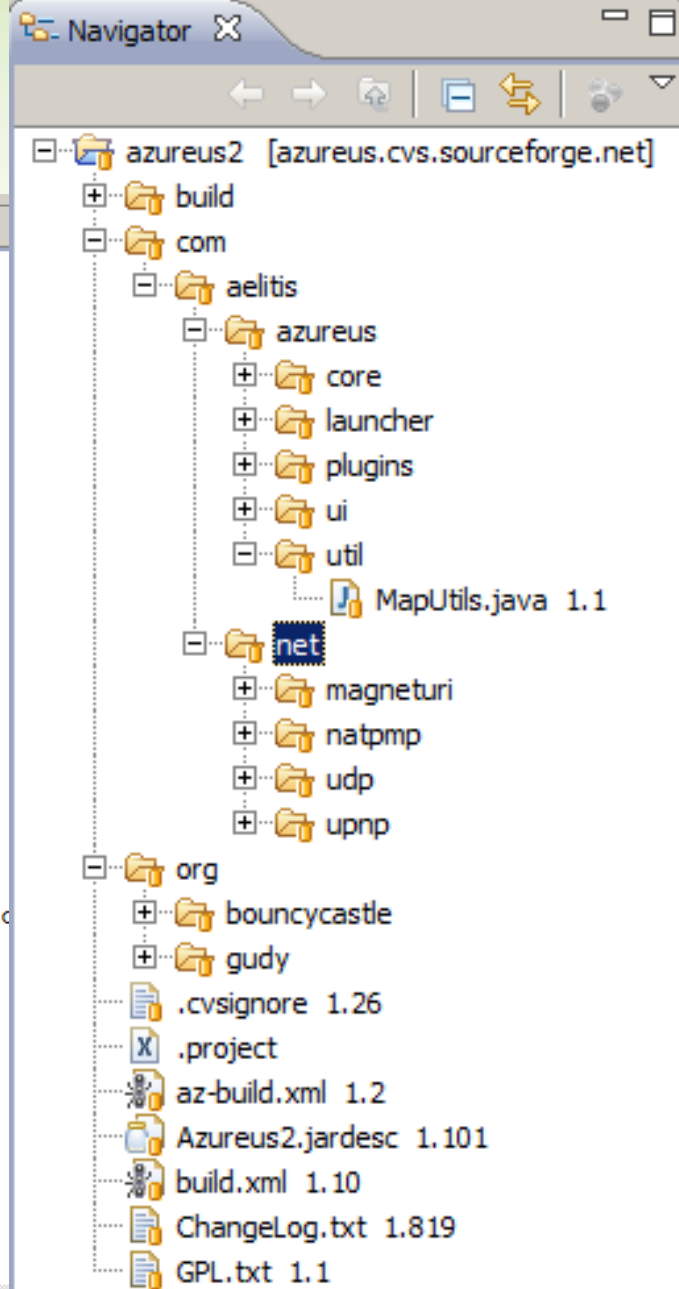
Info

File Name :	FC3-test3-binary-i386	Total Size :	2.26 GB
Save In :	D:\Documents and Settings\Woce\Application Data\Azureus\downloads\FC3	Hash :	5EA678F1 0B17355E 32440456 AEE
# of Pieces :	9265	Size :	256.0 kB
Tracker URL :	http://torrent.linux.duke.edu:6969/announce	Created On :	11-Oct-2004 00:36:08
Tracker Status:	OK		
Update in :	00:12:20	<input type="button" value="Update Tracker"/>	
Comment :			

Azureus 2.2.0.0 / Latest 2.2.0.0 {Nov 01, 19:27} IPs: 0 - 0/1/1 D: 211.1 kB/s U: [40K] 33.9 kB/s

Developer

```
build.xml  MapUtils.java x
114         return Base64.decode((String) o);
115     }
116 }
117
118 String b32Key = key + ".B32";
119 if (map.containsKey(b32Key)) {
120     o = map.get(b32Key);
121     if (o instanceof String) {
122         return Base32.decode((String) o);
123     }
124 }
125
126 return def;
127 } catch (Throwable t) {
128     Debug.out(t);
129     return def;
130 }
131 }
132
133 public static Object getMapObject(Map map, String key, Object
134     if (map == null) {
135         return def;
136     }
137     try {
138         Object o = map.get(key);
139         if (cla.isInstance(o)) {
140             return o;
141         } else {
142             return def;
143         }
144     }
```



Building

```
~/projects/azureus2
[javac]         throws UPnPException
[javac]         ^
[javac] C:\projects\azureus2\com\aelitis\net\upnp\impl\services\UPnPSSWANCommonInterfaceConfigImpl.java:62: incompatible types
[javac] found   : com.aelitis.net.upnp.UPnPException
[javac] required: java.lang.Throwable
[javac]         throw( new UPnPException( "GetCommonLinkProperties not supported" ));
[javac]         ^

BUILD FAILED
C:\projects\azureus2\build.xml:39: Compile failed; see the compiler error output for details.

Total time: 12 seconds

toomas@RnD-demo ~/projects/azureus2
$ ant
Buildfile: build.xml

init:
[echo] Building Azureus2.jar...

compile:
[javac] Compiling 2821 source files to C:\projects\azureus2
[javac] Note: Some input files use or override a deprecated API.
[javac] Note: Recompile with -Xlint:deprecation for details.
[javac] Note: Some input files use unchecked or unsafe operations.
[javac] Note: Recompile with -Xlint:unchecked for details.

jar:
[jar] Building jar: C:\projects\azureus2\dist\Azureus2.jar

BUILD SUCCESSFUL
Total time: 1 minute 5 seconds

toomas@RnD-demo ~/projects/azureus2
$
```

Build tools

- make/ant/gant/rake/bash/maven

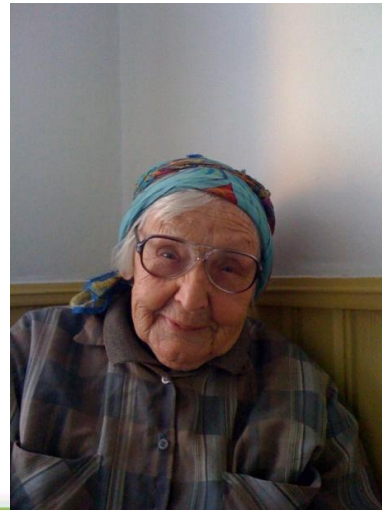
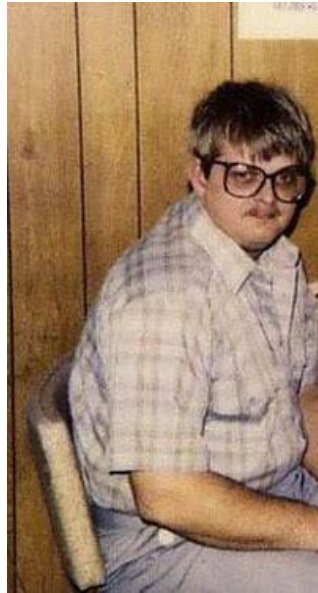
- Usually filesystem oriented

- Compiling
- Copying
- Moving
- Packaging

- Repetitive tasks

Demo

Version Control System



Version Control System

- Standalone program
- Gigantic undo
 - Revisions
 - Timestamps
 - Author
- SVN
- CVS, Git, Mercurial, TeamFoundation, Darcs, Monotone

Version Control System

DEMO

<https://swingset3.dev.java.net/source/browse/swingset3/>

Issue/Bug Tracking

- List of Issues
- Like Facebook but for issues
- <https://issues.apache.org/jira/browse/MYFACES>
- <http://youtrack.jetbrains.net/issues/IDEA>
- <https://bugzilla.mozilla.org/query.cgi?format=advanced>

Continuous integration

- Quality control
- Test runs on update
 - Compile
 - Test
 - Blame
- Hudson/Bamboo/TeamCity

TeamCity

IntegrationBuild (MySQL) ⌵				Run ...
#11811	🔄 Tests passed: 226 ⌵	No artifacts	Changes (1) ⌵	1h:0m left ▬ Stop
#11810	🔴 Tests failed: 1 (1 new), passed: 3158, ignored: 35 ⌵	No artifacts	No changes ⌵	26 Nov 08 15:10 (1h:13m)
IntegrationBuild (Oracle) ⌵		1 build in queue ⌵		Pending (1) ⌵ Run ...
#1937	⚠️ 🔴 Tests failed: 3 (1 new), passed: 1546, ignored: 25 ⌵	No artifacts	Changes (1) ⌵	overtime: 12m:32s ▬ Stop
#1938	🟢 Tests passed: 3173, ignored: 25 ⌵	No artifacts	Changes (6) ⌵	26 Nov 08 14:42 (1h:46m)
IntegrationBuild (PSQL) ⌵		1 build in queue ⌵		Pending (1) ⌵ Run ...
#2822	🟢 Tests passed: 3173, ignored: 25 ⌵	No artifacts	Changes (6) ⌵	26 Nov 08 14:42 (1h:24m)
IntegrationBuild (Solaris) ⌵				Run ...
#1795	🔄 Tests passed: 528, ignored: 9 ⌵	No artifacts	Changes (1) ⌵	31m:31s left ▬ Stop
#1794	🟢 Tests passed: 3407, ignored: 33 ⌵	No artifacts	Changes (2) ⌵	26 Nov 08 15:07 (52m:13s)
Javadoc-Inspections ⌵				Run ...
#3468	🔄 Analyzing code ... 93% ⌵	No artifacts	Changes (1) ⌵	7m:09s left ▬ Stop
#3467	🟢 Success ⌵	No artifacts	Changes (2) ⌵	26 Nov 08 14:47 (26m:06s)
MasterBuild ⌵				Run ...
#8074	🔄 target: buildNSISAgent ⌵	No artifacts	Changes (1) ⌵	2h:43m left ▬ Stop
#8073	🔄 Tests passed: 840, ignored: 19 ⌵	Artifacts ⌵	Changes (2) ⌵	1h:14m left ▬ Stop
#8072	🔄 Tests passed: 4316, ignored: 43 ⌵	Artifacts ⌵	Changes (1) ⌵	7m:41s left ▬ Stop
#8071	🔄 Tests passed: 1285, ignored: 10 ⌵	Artifacts ⌵	Changes (2) ⌵	15m:25s left ▬ Stop

Continuous integration

- Tons of plugins
 - Project health
 - Code health (static analysis, coverage)
 - SVN/GIT/CVS/Team Foundation/Monotone etc.
 - Notifications (email/xmpp/twitter)
 - Screenshots
 - Etc.

Continuous integration

DEMO

IDE

- Eclipse
- IntelliJ IDEA
- NetBeans
- DEMO



Questions?