

IRC - Internet Relay Chat

Protocol, Communication, Applications

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Introduction

- **Facts.**
- **How it works.**
- **IRC specifiaction.**
- **Communication.**
- **Messages Details.**
- **Applications.**

Facts

- **IRC provides a way of communicating in real time with people from all over the world.**
- **Consists of various separate networks of IRC servers.**
- **The largest nets are EFnet (the original IRC net), Undernet, IRCnet, DALnet, and Quakenet.**
- **Jarkko Oikarinen, Department of Information Processing Science in University of Oulu (finnland) 1988.**
- **Based on TCP/IP.**

How it works

Generally, the user runs a program to connect to a server on one of the IRC nets, and the server relays information to and from other servers on the same net. Once connected to an IRC server on an IRC network, you can join one or more **channels** and converse with others. Conversations may be public (where everyone in a channel can see what you type) or private (messages between only two people).

- **Channels:** A channel is a named group of one or more clients which will all receive messages addressed to that channel. Channel names usually begin with a '#', and are registered in the channel list of the irc net.
- **Nicknames:** Each user is known on IRC by a unique *nick*.
- **Channel ops:** Channels are controlled by channel operators, or just 'ops' for short, who can control the channel by choosing who may join (by 'banning' some users), who must leave (by 'kicking' them out), and even who may speak (by making the channel 'moderated')!
- **IRC ops:** IRC ops manage the servers themselves.

IRC specifications: Character codes

- **Case insensitive,**
- **Messages consist of 8 bit char codes (e.g. ASCII),**
- **Characters `{ }` are lower case equivalents of `[] \`.**

IRC specifications: Messages / Numeric replies

- **Prefix (optional)** - is indicated by a single leading colon (':', 0x3b),
- **Command,**
- **Command parameters (up to 15).**

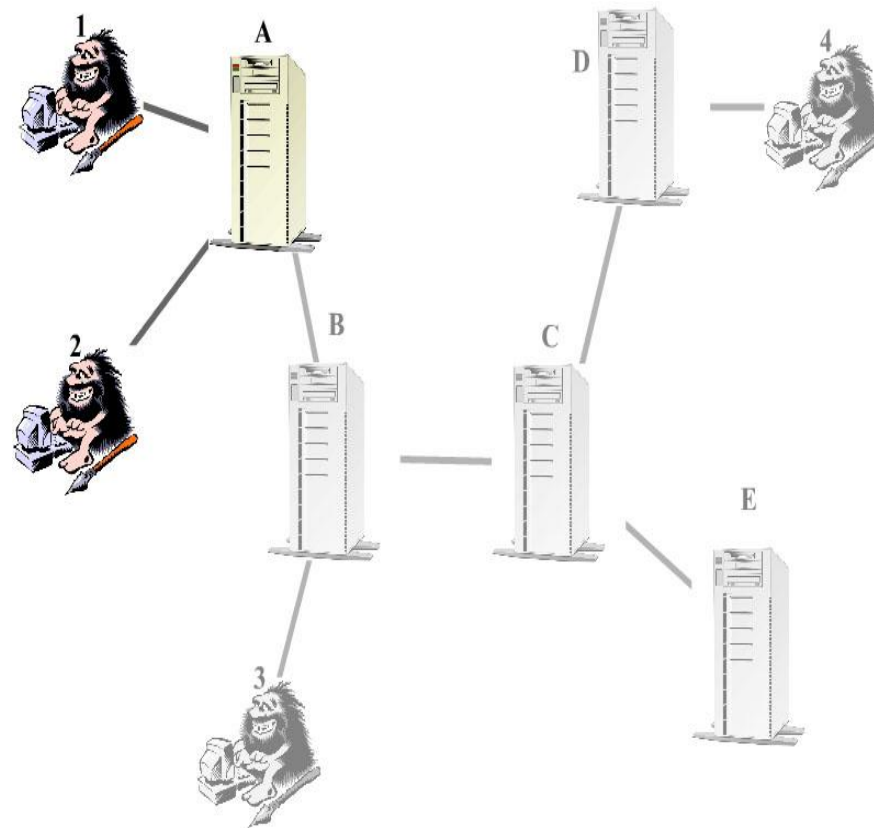
All 3 parts and parameters are separated by one (or more) ASCII space character(s) (0x20). Messages are always lines of characters (maximum 512 characters in length) terminated with a CR-LF.

The server can answer with a Numeric reply consisting of a three digit numeric (STATUS, ERROR messages, etc.).

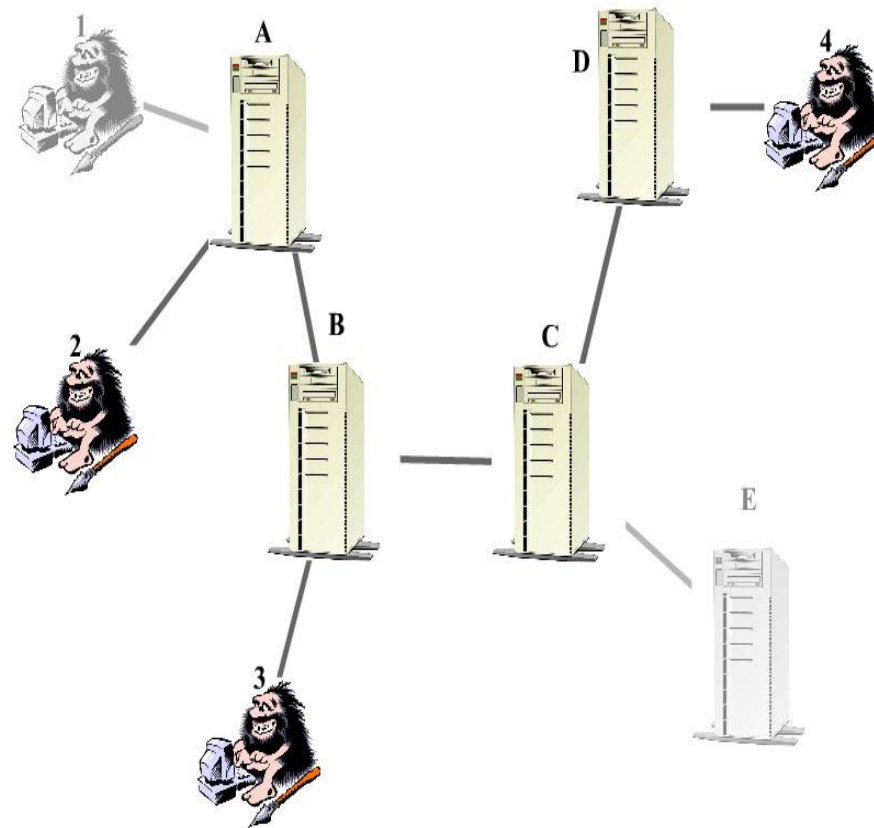
Communication

- **One-to-one (client-client).**
- **One-to-many (list, group:channel, host/server mask).**
- **One-to-all (client-client, client-server, server-server).**

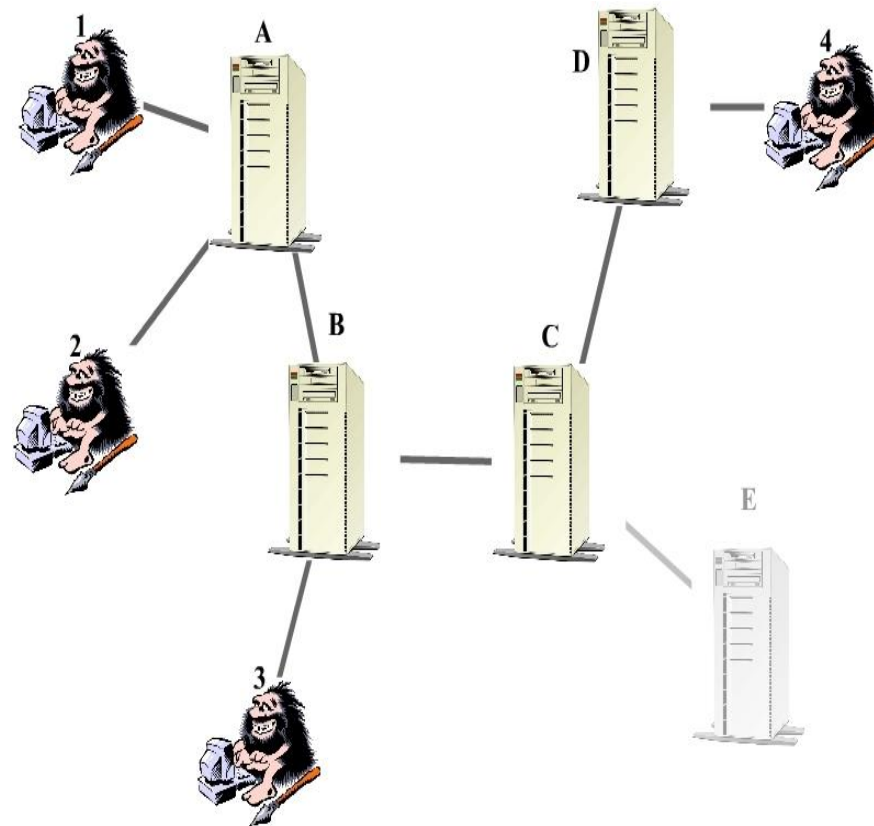
Communication: One-to-one (client-client)



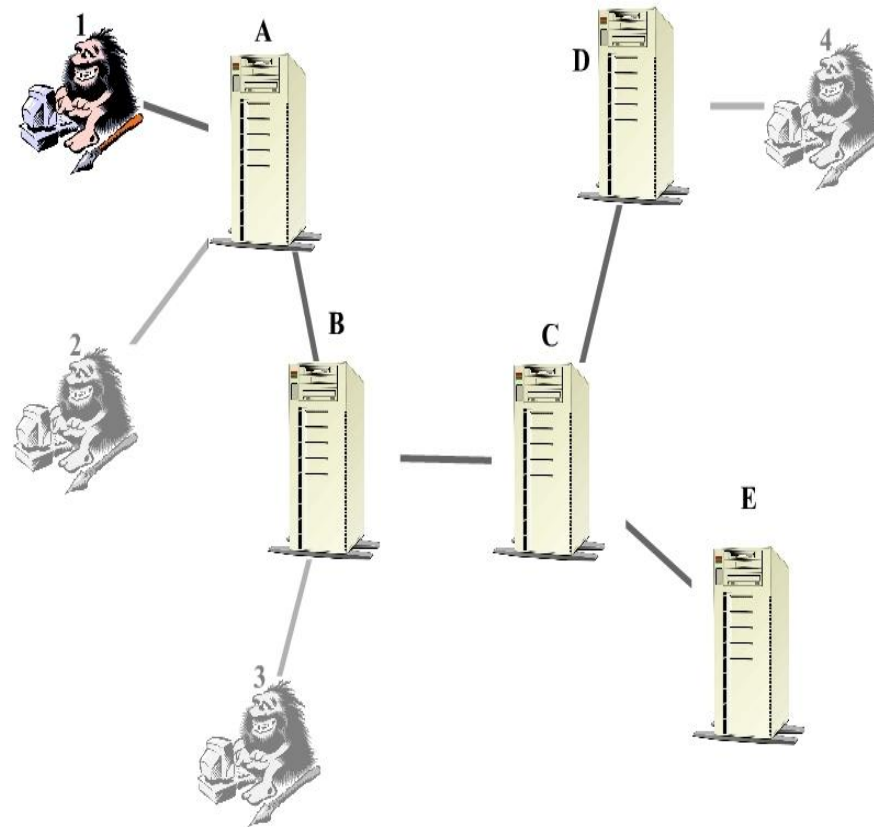
Communication: One-to-many (list, group, host/server mask)



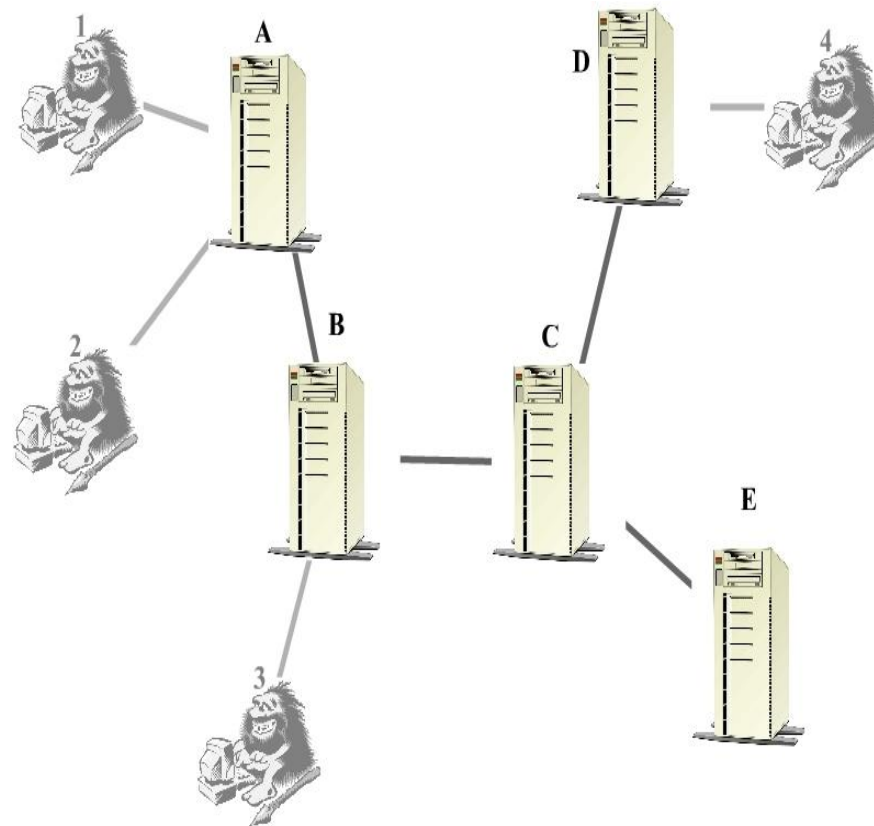
Communication: One-to-all (client-client)



Communication: One-to-all (client-server)



Communication: One-to-all (Server-to-Server)



Message Details

- **Connecton registration.**
- **Channel operations.**
- **Sending messages.**
- **User based queries.**
- **Misc.**

Message Details: Connection registration

- * **PASS** < *password* >
- * **NICK** < *name* > [< *hopcount* >]
- * **USER** < *username* >< *hostname* >< *servername* >< *realname* >
- **SERVER** < *servername* >< *hopcount* >< *info* >
- **OPER** < *user* >< *password* >
- **QUIT** < *quitmessage* >
- **SQUIT** < *server* >< *comment* >

Message Details: Channel operations

- **JOIN** *< channel >* { , *< channel >* } [*< key >* { , *< key >* }]
- **PART** *< channel >* { , *< channel >* }
- **Channelmodes: MODE** *< channel >* { [+|-] || o || p || s || i || t || n || b || v } [*< limit >*] [*< user >*] [*< banmask >*]
- **Usermodes: MODE** *< nickname >* [+|-] | i | w | s | o
- **TOPIC** *< channel >* [*< topic >*]
- **NAMES** [*< channel >* , *< channel >*]
- **LIST** [*< channel >* , *< channel >* [*< server >*]]
- **INVITE** *< nickname >* *< channel >*
- **KICK** *< channel >* *< user >* [*< comment >*]

Message Details: Sending messages

- **PRIVMSG** *< receiver > {, < receiver > } < texttobesent >*
- **NOTICE** *< nickname > < text >*

Message Details: User based queries

- **WHO** [*< name > [< o >]*]
- **WHOIS** [*< server >*] *< nickmask >* [, *< nickmask >* [, ...]]
- **HOWAS** *< nickname >* [*< count >* [*< server >*]]

Message Details: Misc

- **KILL** < *nickname* > < *comment* >
- **PING** < *server1* > [< *server2* >]
- **PONG**

Applications

- **IRCd, Linux IRC server daemon (the original)**
- **Irssi (Linux)**
- **xChat (Linux/Windows)**
- **mIRC (Windows)**

Applications: IRCd

ircd is the original Internet Relay Chat Daemon which is still actively maintained. It is used by IRCnet, one of the biggest IRC Networks. It supports the new !channel (safe channels), as described in RFC 2810 - 2813.

There are loads of other irc server deamons out there, with more and advanced features, but this one is THE ONE.

- **Latest versions: 2.9.5 (stable), 2.10.3p5 (pre) and 2.11.0(alpha).**
- **It can be obtained at <ftp://ftp.irc.org/irc/server/>**
- **More infomartion: http://www.irc.org/techi_docs/ircnet/faq.html**

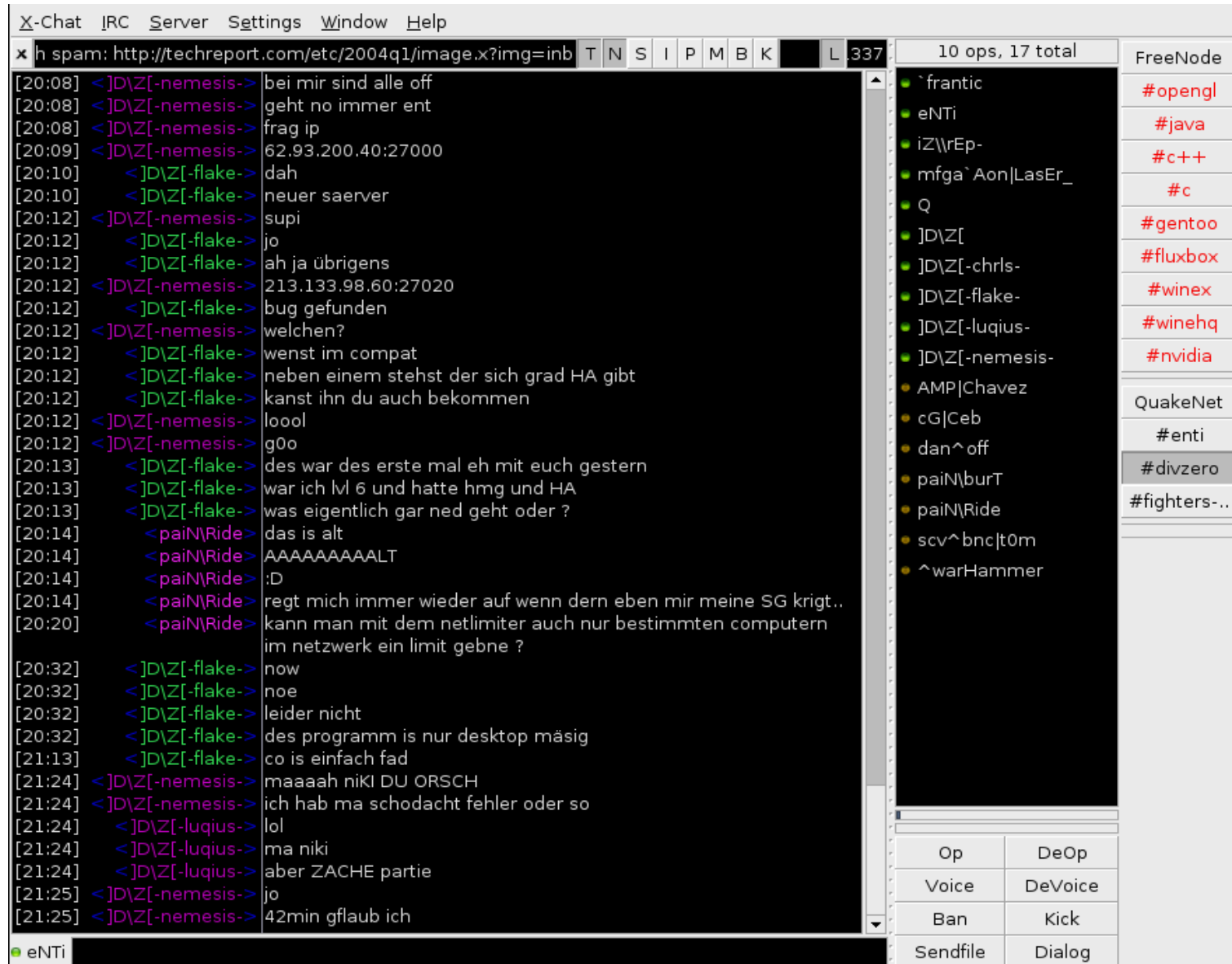
Applications (Linux / Clients): Irssi 0.8.9

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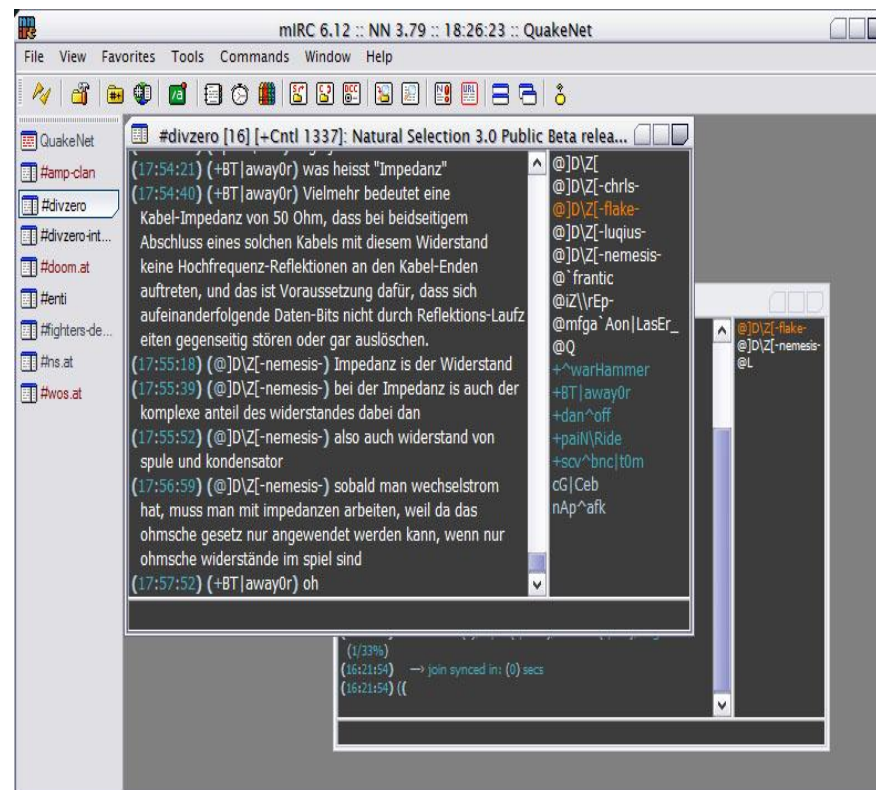
Gentoo Linux || python upgrade? remember to run /usr/portage/dev-lang/python/files/python-updater || new genkernel? commands
21:38 [ eon- ] [ Nermal ] [ wschlich ]
21:38 [ equiraptor ] [ NeroWolfe ] [ x-only ]
21:38 [ eraser ] [ nertz ] [ xdsg ]
21:38 [ eric_ ] [ netRealm ] [ xeno_ ]
21:38 [ Erwin` ] [ neublar ] [ xeperno ]
21:38 [ esammer ] [ NewOrder ] [ xerox ]
21:38 [ EvilCHELU ] [ nexu ] [ Xiol ]
21:38 [ evocate ] [ NHI ] [ Xkilla ]
21:38 [ ex0tic ] [ NHIwerx ] [ xSquared ]
21:38 [ exeel ] [ nichao ] [ Xwild ]
21:38 [ eZkl ] [ nico- ] [ xylo_ ]
21:38 [ Face ] [ Nigelenki ] [ XYZ359 ]
21:38 [ fanou ] [ Night_shade ] [ xzcvczx ]
21:38 [ felixz ] [ nk_ ] [ Yarrick ]
21:38 [ ferret ] [ NME^aw ] [ Yorkshire ]
21:38 [ ferringb ] [ nocternal ] [ yoshi_ ]
21:38 [ filipp ] [ Novas007 ] [ ysb_ ]
21:38 [ fintler ] [ NU-Slacker ] [ zakaelri ]
21:38 [ fips ] [ nuk ] [ Zannion ]
21:38 [ FireNoodl ] [ NullPhi ] [ ZaYer ]
21:38 [ firestarter ] [ nullpuppy ] [ zeb ]
21:38 [ fiz ] [ Obi_ ] [ zeeSchool ]
21:38 [ flock ] [ Obz_ ] [ zendron_ ]
21:38 [ Floh ] [ Octane^_^ ] [ zoran ]
21:38 [ Flooda ] [ oddcomp ] [ zurfer ]
21:38 [ flori_ ] [ odo ] [ zwik ]
21:38 [ fluffle ] [ Oliver ] [ {-DB-} ]
21:38 [ fo0bar ] [ omnivector ] [ lbuprofen ]
21:38 [ ForSak3n ] [ Optical-i ] [ ldaverl ]
21:38 [ ForSakEn ] [ orangepeel ] [ lmarkiel ]
21:38 [ Fr33gLIDE ] [ orkim ] [ lMikel ]
21:38 [ FraterM ] [ otulp ] [ lNeocrypteKl ]
21:38 [ frcmstr ] [ Outcast ] [ lQuinny ]
21:38 [ freak ] [ overl ]
21:38 [ FreakCERS ] [ p0g ]
21:38 -!- Irssi: #gentoo: Total of 865 nicks [25 ops, 0 halfops, 0 voices, 840 normal]
21:38 -!- Channel #gentoo created Sun Aug 3 23:25:49 2003
21:38 -!- Irssi: Join to #gentoo was synced in 2 secs
21:38 < killLeen> Bowyakka : My dependencies fail at boot of the kernel though.
21:38 < grem> has anyone here installed freevo using portage? It puts it in a non standard spot and i'm not quite sure
what to do with some of the configuration information?
21:38 < ferret> Okay, that's enough irrelevant rubbish from me for today. :/
21:38 < SantaigoX> can you run a perl script in crontab.weekly by just putting the script in that folder?
21:38 < SantaigoX> i am using fcron btw
21:38 -!- NinerFan [NinerFan@pluto.sbmed.com] has joined #gentoo
21:38 < SantaigoX> if that makes any difference
21:38 < killLeen> Bowyakka : They "Fail to Calculate Dependencies"
[21:38] [eNti-irssi(+i)] [3:#gentoo(+FJPCfnt)] [Act: 1]
[#gentoo]

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Applications (Linux & Windows / Clients): xChat 2.0.7



Applications (Windows / Clients): mIRC 6.12



Information sources

- **rfc1459 (original IRC rfc),**
- **rfc2810-rfc2813 (addons/updates)**
- **<http://www.irc.org>**

The End

Thank you for your devote presence and
feel free to ask some questions (on the
topic).