Network Working Group
Request for Comments: 1459

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Internet Relay Chat Protocol

Status of This Memo

This memo defines an Experimental Protocol for the Internet community. Discussion and suggestions for improvement are requested. Please refer to the current edition of the "IAB Official Protocol Standards" for the standardization state and status of this protocol. Distribution of this memo is unlimited.

Abstract

The IRC protocol was developed over the last 4 years since it was first implemented as a means for users on a BBS to chat amongst themselves. Now it supports a world-wide network of servers and clients, and is stringing to cope with growth. Over the past 2 years, the average number of users connected to the main IRC network has grown by a factor of 10.

The IRC protocol is a text-based protocol, with the simplest client being any socket program capable of connecting to the server.

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1. INTRODUCTION

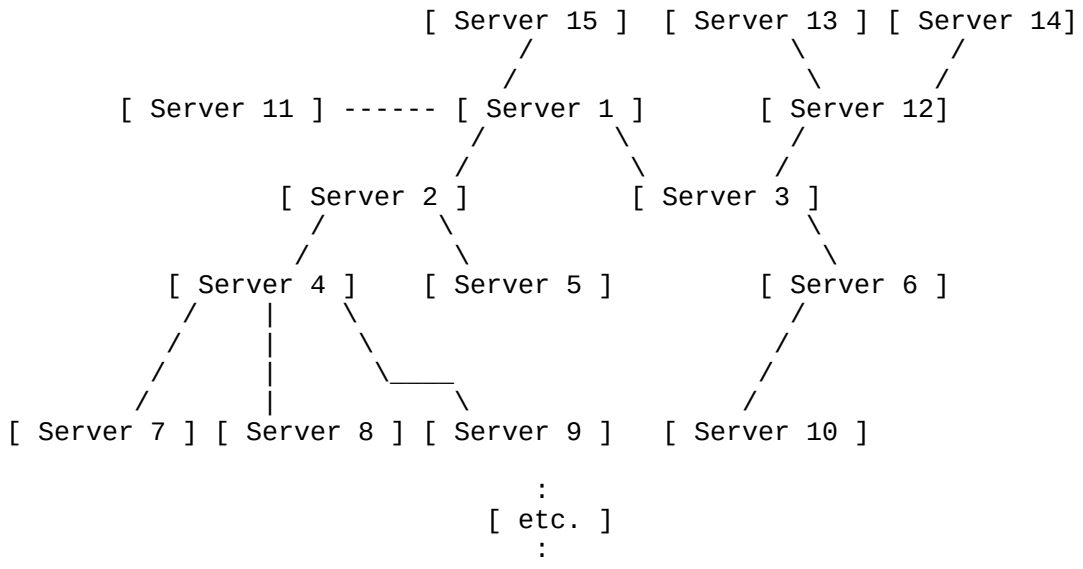
The IRC (Internet Relay Chat) protocol has been designed over a number of years for use with text based conferencing. This document describes the current IRC protocol.

The IRC protocol has been developed on systems using the TCP/IP network protocol, although there is no requirement that this remain the only sphere in which it operates.

IRC itself is a teleconferencing system, which (through the use of the client-server model) is well-suited to running on many machines in a distributed fashion. A typical setup involves a single process (the server) forming a central point for clients (or other servers) to connect to, performing the required message delivery/multiplexing and other functions.

1.1 Servers

The server forms the backbone of IRC, providing a point to which clients may connect to to talk to each other, and a point for other servers to connect to, forming an IRC network. The only network configuration allowed for IRC servers is that of a spanning tree [see Fig. 1] where each server acts as a central node for the rest of the net it sees.



[Fig. 1. Format of IRC server network]

1.2 Clients

A client is anything connecting to a server that is not another server. Each client is distinguished from other clients by a unique nickname having a maximum length of nine (9) characters. See the protocol grammar rules for what may and may not be used in a nickname. In addition to the nickname, all servers must have the following information about all clients: the real name of the host that the client is running on, the username of the client on that host, and the server to which the client is connected.

1.2.1 Operators

To allow a reasonable amount of order to be kept within the IRC network, a special class of clients (operators) is allowed to perform general maintenance functions on the network. Although the powers granted to an operator can be considered as 'dangerous', they are nonetheless required. Operators should be able to perform basic network tasks such as disconnecting and reconnecting servers as needed to prevent long-term use of bad network routing. In recognition of this need, the protocol discussed herein provides for operators only to be able to perform such functions. See sections 4.1.7 (SQUIT) and 4.3.5 (CONNECT).

A more controversial power of operators is the ability to remove a user from the connected network by 'force', i.e. operators are able to close the connection between any client and server. The justification for this is delicate since its abuse is both destructive and annoying. For further details on this type of action, see section 4.6.1 (KILL).

1.3 Channels

A channel is a named group of one or more clients which will all receive messages addressed to that channel. The channel is created implicitly when the first client joins it, and the channel ceases to exist when the last client leaves it. While channel exists, any client can reference the channel using the name of the channel.

Channels names are strings (beginning with a '&' or '#' character) of length up to 200 characters. Apart from the the requirement that the first character being either '&' or '#'; the only restriction on a channel name is that it may not contain any spaces (' '), a control G (^G or ASCII 7), or a comma (',' which is used as a list item separator by the protocol).

There are two types of channels allowed by this protocol. One is a distributed channel which is known to all the servers that are

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