for the first time in history people and machinery are working together realizing a dream a uniting force that knows no geographical boundaries without regard to race creed or color a new era where communication truly brings people together this is the dawn of the net want to know how it works click here texactly what happened when you clicked on that link you started a flow of information this information travels down into your own personal mail room where mr. IP packages it labels it and sends it on its way each packet is limited in its size the mail room must decide how to divide the information and how to package it now the package needs a label containing important information such as senders address receivers address and the type of packet it is because this particular packet is going out onto the Internet it also gets an address for the proxy server which has a special function as we'll see later the packet is now launched onto your local area network or LAN this network is used to connect all the local computers routers printers etc for information exchange within the physical walls of the building the land is a pretty uncontrolled place and unfortunately accidents can happen the highway of the land is packed with all types of information these are IP packets Novell packets appletalk packets they're going against traffic as usual the local router reads the address and if necessary lifts the packet onto another network ah the router a symbol of control in a seemingly disorganized world there is systematic uncaring methodical conservative and sometimes not quite of disputed sorry but at least he is exact for the most part loser as the packets leave the router they make their way into the corporate intranet and head for the router switch a bit more efficient than the router the router switch plays fast and loose with IP packets deftly routing them along the way a digital pinball wizard if you were as packets arrive at their destination they're picked up by the network interface ready to be sent to the next level in this case the proxy the proxy is used by many companies as sort of a middleman in order to lessen the load on their internet connection and for security reasons as well as you can see the packets are all of various sizes depending upon their content the proxy opens the packet and looks for the web address or URL depending upon whether the address is acceptable the packet is sent on to the Internet there are however some addresses which do not meet with the approval of the proxy that is to say corporate or management guidelines these are some merrily dealt with we'll have none of that for those who make it it's on the road again next up the firewall the corporate firewall serves two purposes it prevents some rather nasty things from the internet from coming into the intranet and it can also prevent sensitive corporate information from being sent out on to the Internet once through the firewall a router picks up the packet and places it on to a much narrower road for bandwidth as we say obviously the road is not broad enough to take them all now you might wonder what happens to all those packets which don't make it along the way well when mr. IP doesn't receive an acknowledgement that a packet has been received in due time he simply sends a replacement packet we are now ready to enter the world of the internet a spider web of interconnected

networks which span our entire globe here routers and switches establish links between networks now the net is an entirely different environment than you'll find within the protected walls of your land out here it's the Wild West plenty of space plenty of opportunities plenty of things to explore and places to go thanks to very little control and regulation new ideas find fertile soil to push the envelope of their possibilities but because of this freedom certain dangers also lurk you'll never know when you'll meet the dreaded pain of death a special version of a normal request ping which some idiot thought up to mess up unsuspecting hosts the pass our packets take maybe via satellite telephone lines wireless or even transoceanic cable they don't always take the fastest or shortest for it's possible but they will get there eventually maybe that's why it's sometimes called the worldwide wait but when everything is working smoothly you can circumvent the globe five times over at the drop of a hat literally and offer the cost of a local call or less near the end of our destination we'll find another firewall depending upon your perspective as a data packet the firewall could be a bastion of security or a dreaded adversary it all depends on which side you're on and what your intentions are the firewall is designed to let in only those packets that meet its criteria this firewall as operating on port 80 and 25 all attempts to enter through other ports are closed for business port 25 is used for mail packets while port 80 is the entrance for packets from the Internet to the web server inside the firewall packets are screened more thoroughly some packets make it easily through customs while others look just a bit dubious the firewall officer is not easily fooled such as when this ping of death packet tries to disguise itself as a normal ping packet for those packets lucky enough to make it this far the journey is almost over it's just a line up on the interface to be taken up into the web server nowadays a web server can run on many things from a mainframe to a webcam to the computer on your desk why not your refrigerator with a proper setup you can find out if you have the makings for Chicken Cacciatore or if you have to go shopping remember this is the dawn of the net almost anything is possible one by one the packets are received opened and unpacked the information they contain that is your request for information is sent on to the web server application the packet itself is recycled ready to be used again and filled with your requested information addressed and sent out on its way back to you back past the firewall routers and on through to the internet back through your corporate firewall and on to your interface ready to supply your web browser with the information you requested that is this film pleased with their efforts and trusting in a better world our trusty data packets ride off blissfully into the sunset of another day knowing fully they have served their masters well now isn't that a happy ending.