

## Acompaiison between Internet Protocol Versions 4, 5 and 6

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### الخلاصة

يتضمن هذا البحث وصفاً لبروتوكولات الانترنت 4، 5 و 6 وتبيان الفروقات فيما بينها وتحديد الأفضل استخداماً منها لمستقبل الشبكة العالمية، وتحديد نقاط التفاضل فيما بينها وما يقدمه كل بروتوكول لتسهيل وتبسيط عمل شبكة الانترنت. الهدف الرئيس لهذا البحث هو المقارنة بين البروتوكولات IPv4, IPv5 و IPv6 لتحديد البروتوكول الأفضل والاستخدام الأوسع فيما بينهم. كذلك هذا البحث يحدد نقاط الضعف لكل بروتوكول للحصول على اكبر فائدة لواحد منها في شبكة الانترنت. كذلك يبين عمل العنونة، وما هية البروتوكولات وكيفية عملها.

### Abstract

This research includes a description of the Internet Protocol (IP) version 4, 5 and 6, which also explains the difference between these protocols, and specify which the of them is the best for the future of world network. By this research we can determine the best advantages between these protocols, and fixed what each protocol employ to make the internet network works best, also it shows which protocol covers large amount of users who ususe the IP protocol. The main goal of this research is a comparison between the internet protocols IPv4, IPv5 and IPv6 to determine which one of them is the best and widly used . In addition, this research explains the week points for every one to obtain the more useful one in the internet network. It is about how the address works, what the IP protocols are, and what they do.

### Introductio

The main goal of this research is a comparison between the internet protocols IPv4, IPv5 and IPv6 to determine which one of them is the best and widely used. In addition, this research explains the weak points for every one to obtain the more useful one in the internet network. It is about how the address works, what the IP protocols are, and what they do.

When IP was first standardized in September 1981, the specification required that each system attached to an IP-based Internet be assigned a unique, 32-bit internet address value. Previously, IPv4 is the most used version of IP. This version of IP is based on assignment to each network interface of a 32 bit address. It denoted in \_ dotted quad decimal format, dotted decimal notation divides the 32-bit internet address into four 8-bit fields and specifies the value of each field independently as decimal number with the fields separated by dots. [1].

IPv5 never existed. The IPv5 was assigned to identify packets carrying an experimental nominally the designation for the internet stream protocol that was first suggested in the late 1970 forexperimental transmission of voice, video and distribute simulation[2]

IPv6 is intended to replace the IPv4 standard, whose limit on network addresses to restrict internet growth and use, especially in China, India and other heavily populated Asian countries. The IPv6 is stands for internet protocol and this is one of the foundational technologies that help inkeeping the global network running. [3]

### **The internet protocol**

The internet protocol (IP) is the network-layer protocol used by TCP/IP for addressing and routing packets of data between hosts. The IP protocol is the part of the internet that makes it all work; it is the part that is responsible to makesre that the data beeing sent arrives at the right places. Without a network protocol no computers could communicate with one another. The IP protocol is in the OSI model called the network layer. All we know that the number of computers connected to the internet is constantly growing, which means that the network is running out of IPv4 addresses. This is why researchers are starting to eploy

IPv6 as a standard. [4].