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A SERIAL NUMBER BASED IDENTIFICATION MODEL FOR A COMPUTER IN A WIRELESS LOCAL AREA NETWORK

With today's technological evolution, wireless networks have become very common for organizations, homes and public places. Besides, wireless devices seem to fill our daily lives with wireless "hotspots" emerging almost everywhere both in offices, airports, cyber cafes, sports venues and even in coffee shops. For any device to be authenticated and authorised to use any of the wireless network services, it must first be identified. Once a device has been identified, it may then be authenticated and authorized to have access to the wireless network resources. One of the biggest challenges with implementing wireless networks, though, is implementing the identification of the wireless devices. Apart from port numbers and IP addresses at application and network layers respectively, devices in a network use MAC addresses for identification at the physical layer. However MAC addresses can be altered thereby compromising the security, robustness and uniqueness qualities of a device identifier. This study therefore examined the inbuilt access and use of a serial number prototype system as an alternative method of identifying devices in a network. The model was constructed using evolutionary prototyping and proof of concept methods through test runs and was found to actually identify a device in a network based on a computer's serial number. It is then recommended that prototype be scaled up and adopted as network device identification method

Key Words: Computer, Serial Number-Based Identification, Wireless Local Area Network

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