

# Cloud Computing and How to be Secure using algorithm “Elrayah” Cybersecurity framework based of dev of tech

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**Abstract-** The cloud change, the future of information technology, revelation and how to retrieve, with information, still the area of Cybersecurity, need to be involve, the future of computer system. is go now through cloud technology .in this manuscript, we are going to demonstrated azure and we defined the algorism (Elrayah) which used, to support more important framework of Azure Cloud Computing Azure Active Directory. the method is standard policy create to Users and group and be checked by Identify governance management., Azure AD Conditional Access, Azure AD Identity Protection, Azure Security Center, Identity Secure Score, Named locations, Authentication methods, Multi Factor Authentication (MFA)

**Keywords-** Cloud Computing Security –Cybersecurity – Computer Security-Network Security-Azure

## I. INTRODUCTION

Cloud security refers to a broad set of policies, technologies, applications, and controls utilized to protect virtualized IP, data, applications, services, and the associated infrastructure of cloud [ 1] Computer security, Cybersecurity, information technology security (IT security) is the protection from the theft, or damage to their hardware, software, as well as from the disruption or misdirection of the services they provide. The field is becoming more important due to increased reliance on computer systems and Internet [2] and wireless network standards such as Bluetooth and Wi-Fi, and due to the growth of "smart" devices, including Smartphone, televisions, and the various devices that constitute the "Internet of things".(IOT) Owing to its complexity, both in terms of politics and technology, Cybersecurity is also one of the major challenges in the contemporary world [3]in the Network security consists of the policies and practices adopted to prevent and monitor unauthorized access, misuse, modification, or denial of a computer network and network-accessible resources. Network security involves the authorization of access to data in a network, which is controlled by the network administrator. Users choose or are assigned an ID and password or other authenticating information that allows them access to information and programs within their authority. Network security covers a variety of computer networks, both public and private, that are used in everyday jobs conducting transactions and communications among businesses government agencies and individuals Networks, such as within a company, and others which might be open to public access. It does as its title explains: it secures the network, as well as protecting

and overseeing operations being done. The most common and simple way of protecting a network resource is by assigning it a unique name and a corresponding password propose. [4]

## II. EARLIER WORK

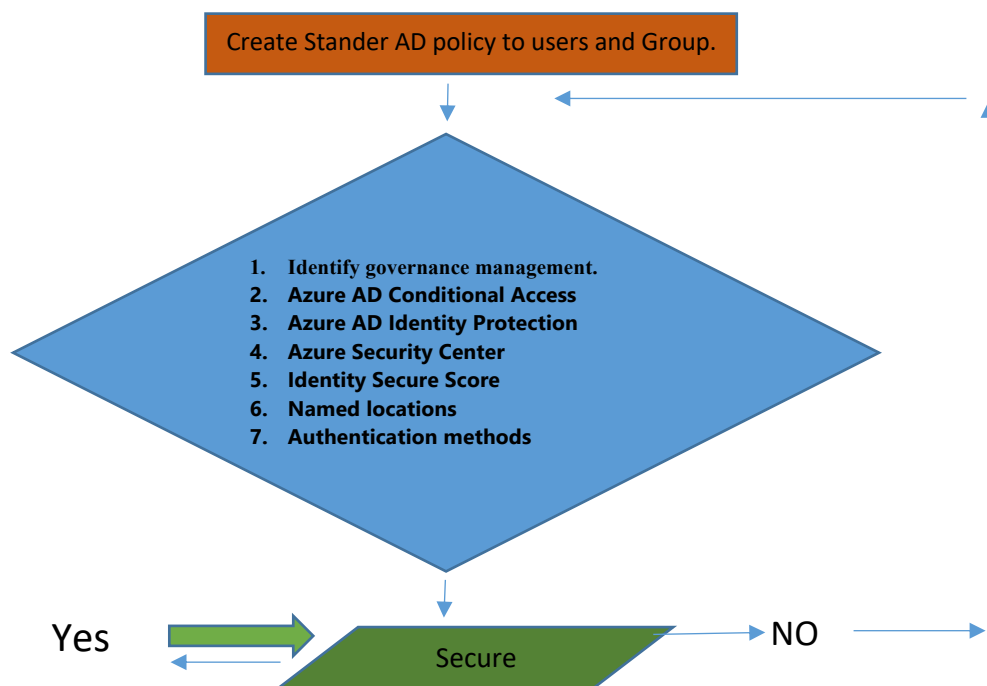
During the 1960s , the initial concepts of time-sharing became popularized via (RJE) [5] this terminology was mostly associated with large vendors such as IBM and DEC. Yet, the " data center " model where users submitted jobs to operators to run on IBM mainframes was over wheel mingy predominant. IN the 1990 s, telecommunications companies, who previously offered primarily dedicated point-to-point data circuits, began offering (VPN) services, with comparable quality of service, by lower cost. Happen switching traffic to balance server use, they could use overall network bandwidth more effectively [6] they began to use the cloud symbol to denote the demarcation point between what the providers was. Cloud computing extended this boundary to cover all servers as well as the network infrastructure [7]. scientists and technologists explored ways to make large-scale computing power available to more users through time -sharing [8] They experimented with algorithms to optimize the infrastructure , platform, and applications to prioritize CPUs and increase ..[9] [10] The use of the cloud metaphor for virtualized services dates at least to General Magic in 1994 , where it was used to describe the universe of "places" that mobile agents in the Typescript environment. As described by Andy Herzfeld: "The beauty of Typescript," says Andy, "is that now", instead of just having a device to program, we now have the entire Cloud out there, where a single program can go and travel to many different sources of information and create sort of a virtual service.[11].The use of the cloud metaphor is credited to General Magic communications employee, based on long-standing use in networking and telecom. In addition to use by General Magic itself, it was also used in promoting AT&T's associated Persona Link Services[12] In August 2006, Amazon created subsidiary Amazon Web Services and introduced its Elastic Compute Cloud (EC2) [13] In April 2008, Google released the beta version of Google App Engine[14] In early 2008, NASA's Open Nebula, enhanced in the Reservoir European Commission-funded project, became the first open-source software for deploying private. and hybrid clouds, and for the federation of clouds [15]. By mid-2008, Gartner saw an

opportunity for cloud computing "to shape the relationship among consumers of IT services [16] and observed that "organizations are switching from company-owned hardware and software assets to per-use service-based models" so that the "projected shift to computing [17]In 2008, the U.S. National Science Foundation began the Cluster Exploratory program to fund academic research using Google-IBM cluster technology.[18] In February 2010, Microsoft released Microsoft Azure, which was announced in October 2008 [19] In July 2010, Rackspace Hosting and NASA jointly launched an open-source cloud-software initiative known as OpenStack[20]. The OpenStack project intended to help organizations offering cloud-computing services running on standard hardware. [21] The early code came from NASA's Nebula platform as well as from Rackspace's Cloud Files platform [22]. As an open-source offering and along with other open-source solutions such as Cloud Stack[23], Genetic and Open Nebula, it has attracted attention by Several key communities [24] [25] [26]On March 1, 2011, IBM announced the IBM Smart Cloud framework to support Smarter Planet[27] Among the various components of the Smarter Computing foundation, cloud computing is a critical part. On June 7, 2012, Oracle announced the Oracle Cloud[28] This cloud offering is poised to be the first to provide users with access to an integrated set of IT solutions, including the Applications (SaaS), Platform (PaaS), and Infrastructure (IaaS) layers [29] [30] [31]. In May 2012, Google Compute Engine was released in preview, before being rolled out into General Availability in December 2013. [32] In 2019, it was revealed that Linux is most used on Microsoft Azure [33]. The goal of cloud computing is to allow users to take benefit from all these technologies, without the need for deep knowledge about or expertise with each one of them. The cloud aims to cut costs, and

helps the users focus on their core business instead of being impeded by IT obstacles [34]. The main enabling technology for cloud computing is virtualization. "virtual" devices, each of which can be easily used and managed to perform computing tasks. With operating system-level virtualization essentially creating a scalable system of multiple independent computing devices, idle computing resources can be allocated and used more efficiently. Virtualization provides the agility required to speed up IT operations and reduces cost by increasing infrastructure utilization. Autonomic computing automates the process through which the user can provision resources on-demand. By minimizing user involvement, automation speeds up the process, reduces labor costs and reduces the possibility of human errors [35] Cloud computing uses concepts from utility computing to provide metrics for the services used. Cloud computing attempts to address (quality of service) and reliability problems of other grid computing models [36]

### III. THEORETICAL FRAMEWORK

Azure Applications Look More Focused on IT Rather than Being Cloud Focused Upon looking, it can be evident that a great range of service segments or applications of Azure is IT focused. These are indeed not entirely cloud focus. This is primarily due to the traditional business network of Microsoft. This naturally makes the information in most cases with Azure to be private or exclusive. These are comparatively least accessible through the web as well. All these aspects make attacks over the network comparatively less prone to Azure security issues. Rather, there are certain segments of Azure database service the hackers highly target those. This happens mostly because these are more apparent towards the web. [37]



(Figure 1-1) Algorithm “Elrayah” Cybersecurity framework based of dev of tech

#### IV. METHOD

As security approach Hanu Managed Azure [37] Check Point Cloud Guard IaaS R80.10 Cluster[38] Active Cypher File Fortress (ACFF) [39] Barracuda CloudGen WAN Service [40] Sophos XG Firewall [41] Azure AD need Stander Polices, we propose Elrayah Azure AD a cross region show in figure 1-1

#### V. CONCLUSION

The algorism which used, is support more important framework of Azure Cloud Computing .as we are fiend in the security branch. we proposed Elrayah Cybersecurity framework based of dev of tech as Stander Polices create and apply in all Users and Group, with test by tools like Identify governance management., Azure AD Conditional Access Azure AD Identity Protection Azure Security Center, Identity Secure Score, Named locations. Authentication methods, Multi Factor Authentication (MFA)

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