

# Cyber Security and Its Challenges

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**Abstract** - Cyber Security plays an important role in the field of information technology. Securing the information have wilt one of the biggest challenges in the present day. When overly we think well-nigh the cyber security the first thing that comes to our mind is 'cyber crimes' which are increasing immensely day by day. Various Governments and companies are taking many measures in order to prevent these cyber crimes. Besides various measures cyber security is still a very big snooping to many. This paper mainly focuses on challenges faced by cyber security on the latest technologies. It moreover focuses on latest well-nigh the cyber security techniques, values and the trends waffly the squatter of cyber security.

**Keywords:** cyber security, cyber crime, social media, cloud computing.

## I. INTRODUCTION

Today man is able to send and receive any form of data may be an e-mail or an audio or video just by the click of a button but did he ever think how securely his data id being transmitted or sent to the other person safely without any leakage of information?? The answer lies in cyber security. Today Internet is the fastest growing infrastructure in everyday life. In today's technical environment many latest technologies are changing the face of the mankind. But due to these emerging technologies we are unable to safeguard our private information in a very effective way and hence these days cyber crimes are increasing day by day. Today more than 60 percent of total commercial transactions are done online, so this field required a high quality of security for transparent and best transactions. Hence cyber security has become a latest issue. The scope of cyber security is not just limited to securing the information in IT industry but also to various other fields like cyber space etc.

### 1.1 Security of Latest Technologies

Even the latest technologies like deject computing, mobile computing, E-commerce, net financial etc moreover needs upper level of security. Since these technologies hold some important information regarding a person their

security has wilt a must thing. Enhancing cyber security and protecting hair-trigger information infrastructures are essential to each nation's security and economic wellbeing. Making the Internet safer (and protecting Internet users) has wilt integral to the minutiae of new services as well as governmental policy. The fight versus cyber treason needs a comprehensive and a safer approach. Given that technical measures vacated cannot prevent any crime, it is hair-trigger that law enforcement agencies are unliable to investigate and prosecute cyber treason effectively. Today many nations and governments are imposing strict laws on cyber securities in order to prevent the loss of some important information. Every individual must moreover be trained on this cyber security and save themselves from these increasing cyber crimes.

## II. CYBER CRIME

Cyber crime is a term for any illegal activity that uses a computer as its primary means of commission and theft. The U.S. Department of Justice expands the definition of cyber crime to include any illegal activity that uses a computer for the storage of evidence. The growing list of cyber crimes includes crimes that have been made possible by computers, such as network intrusions and the dissemination of computer viruses, as well as computer-based variations of existing crimes, such as identity theft, stalking, bullying and terrorism which have become as major problem to people and nations. Usually in common man's language cyber crime may be defined as crime committed using a computer and the internet to steal a person's identity or sell contraband or stalk victims or disrupt operations with malevolent programs. As day by day technology is playing in major role in a person's life the cyber crimes also will increase along with the technological advances.

### 2.1 Cyber Security

Privacy and security of the data will always be top security measures that any organization takes care. We are presently living in a world where all the information is maintained in a digital or a cyber form. Social networking sites provide a

space where users feel safe as they interact with friends and family. In the case of home users, cyber-criminals would continue to target social media sites to steal personal data. Not only social networking but also during bank transactions a person must take all the required security measures.

**Table 1: Comparison of cyber security incidents**

Incidents	Jan-June 2012	Jan-Jun 2013	% (Increase/Decrease)
Fraud	2439	2490	2
Intrusion	2203	1726	22
Spam	219	614	111
Malicious Code	353	442	25
Cyber Harassment	173	233	35
Content Related	10	42	320
Intrusion Attempts	55	24	56
Denial of services	12	10	17
Vulnerability reports	45	11	76
<b>Total</b>	<b>5581</b>	<b>5592</b>	

The above Comparison of Cyber Security Incidents reported to Cyber999 in Malaysia from January–June 2012 and 2013 clearly exhibits the cyber security threats. As crime is increasing even the security measures are also increasing. According to the survey of U.S technology and healthcare executives nationwide, Silicon Valley Bank found that companies believe cyber attacks are a serious threat to both their data and their business continuity. 98% of companies are maintaining or increasing their cyber security resources and of those, half are increasing resources devoted to online attacks this year. The majority of companies are preparing for when, not if, cyber attacks occur. Only one-third are completely confident in the security of their information and even less confident about the security measures of their business partners. There will be new attacks on Android operating system based devices, but it will not be on massive scale. The fact tablets share the same operating system as smart phones means they will be soon targeted by the same malware as those platforms. The number of malware specimens for Macs would continue to grow, though much less than in the case of PCs.

### 2.2 Trends Changing Cyber Security of Web Servers

The threat of attacks on web applications to extract data or to distribute malicious code persists. Cyber criminals distribute their malicious code via legitimate web servers they've compromised. But data-stealing attacks, many of which get the attention of media, are also a big threat. Now, we need a greater emphasis on protecting web servers and web applications. Web servers are especially the best platform for these cyber criminals to steal the data. Hence one

must always use a safer browser especially during important transactions in order not to fall as a prey for these crimes.

### 2.3 Cloud Computing and Its Services

These days all small, medium and large companies are slowly adopting cloud services. In other words the world is slowly moving towards the clouds. This latest trend presents a big challenge for cyber security, as traffic can go around traditional points of inspection. Additionally, as the number of applications available in the cloud grows, policy controls for web applications and cloud services will also need to evolve in order to prevent the loss of valuable information. Though cloud services are developing their own models still a lot of issues are being brought up about their security. Cloud may provide immense opportunities but it should always be noted that as the cloud evolves so as its security concerns increase.

### 2.4 Encryption of the Code

Encryption is the process of encoding messages in such a way that eavesdroppers or hackers cannot read it. In an encryption scheme, the message or information is encrypted using an encryption algorithm, turning it into an unreadable cipher text. This is usually done with the use of an encryption key, which specifies how the message is to be encoded. Encryption at a very beginning level protects data privacy and its integrity. But more use of encryption brings more challenges in cyber security. Encryption is also used to protect data in transit, for example data being transferred via networks (e.g. The Internet, e-commerce), mobile telephones, wireless microphones, wireless intercoms etc. Hence by encrypting the code one can know if there is any leakage of information.

## III. CONCLUSION

Computer security is a vast topic that is becoming more important because the world is becoming highly interconnected, with networks being used to carry out critical transactions. Cyber crime continues to diverge down different paths with each New Year that passes and so does the security of the information. The latest and disruptive technologies, along with the new cyber tools and threats that come to light each day, are challenging organizations with not only how they secure their infrastructure, but how they require new platforms and intelligence to do so. There is no perfect solution for cyber crimes but we should try our level best to minimize them in order to have a safe and secure future in cyber space.

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