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U.S. Department of Justice

Federal Bureau of Investigation  
Washington, D.C. 20535

March 24, 2017

MR. JOHN GREENEWALD JR.  
[REDACTED]  
[REDACTED]

FOIPA Request No.: 1366077-000  
Subject: FBI Cyber Division Terminology  
Lexicon

Dear Mr. Greenewald:

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Sincerely,

David M. Hardy  
Section Chief,  
Record/Information  
Dissemination Section  
Records Management Division

Enclosure(s)

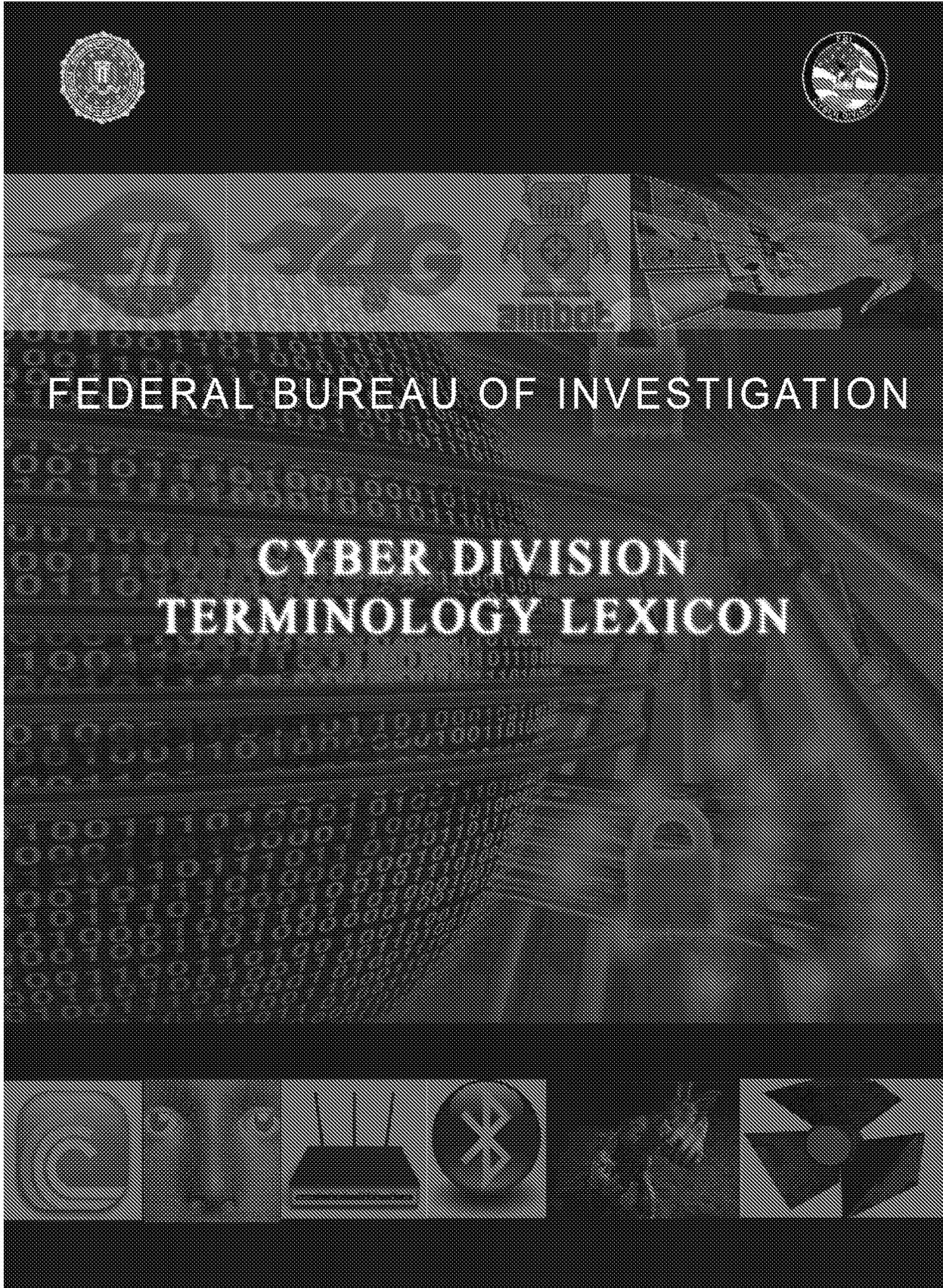
## EXPLANATION OF EXEMPTIONS

### SUBSECTIONS OF TITLE 5, UNITED STATES CODE, SECTION 552

- (b)(1) (A) specifically authorized under criteria established by an Executive order to be kept secret in the interest of national defense or foreign policy and (B) are in fact properly classified to such Executive order;
- (b)(2) related solely to the internal personnel rules and practices of an agency;
- (b)(3) specifically exempted from disclosure by statute (other than section 552b of this title), provided that such statute (A) requires that the matters be withheld from the public in such a manner as to leave no discretion on issue, or (B) establishes particular criteria for withholding or refers to particular types of matters to be withheld;
- (b)(4) trade secrets and commercial or financial information obtained from a person and privileged or confidential;
- (b)(5) inter-agency or intra-agency memorandums or letters which would not be available by law to a party other than an agency in litigation with the agency;
- (b)(6) personnel and medical files and similar files the disclosure of which would constitute a clearly unwarranted invasion of personal privacy;
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- (b)(8) contained in or related to examination, operating, or condition reports prepared by, on behalf of, or for the use of an agency responsible for the regulation or supervision of financial institutions; or
- (b)(9) geological and geophysical information and data, including maps, concerning wells.

### SUBSECTIONS OF TITLE 5, UNITED STATES CODE, SECTION 552a

- (d)(5) information compiled in reasonable anticipation of a civil action proceeding;
- (j)(2) material reporting investigative efforts pertaining to the enforcement of criminal law including efforts to prevent, control, or reduce crime or apprehend criminals;
- (k)(1) information which is currently and properly classified pursuant to an Executive order in the interest of the national defense or foreign policy, for example, information involving intelligence sources or methods;
- (k)(2) investigatory material compiled for law enforcement purposes, other than criminal, which did not result in loss of a right, benefit or privilege under Federal programs, or which would identify a source who furnished information pursuant to a promise that his/her identity would be held in confidence;
- (k)(3) material maintained in connection with providing protective services to the President of the United States or any other individual pursuant to the authority of Title 18, United States Code, Section 3056;
- (k)(4) required by statute to be maintained and used solely as statistical records;
- (k)(5) investigatory material compiled solely for the purpose of determining suitability, eligibility, or qualifications for Federal civilian employment or for access to classified information, the disclosure of which would reveal the identity of the person who furnished information pursuant to a promise that his/her identity would be held in confidence;
- (k)(6) testing or examination material used to determine individual qualifications for appointment or promotion in Federal Government service the release of which would compromise the testing or examination process;
- (k)(7) material used to determine potential for promotion in the armed services, the disclosure of which would reveal the identity of the person who furnished the material pursuant to a promise that his/her identity would be held in confidence.



(U//~~FOUO~~) FEDERAL BUREAU OF INVESTIGATION  
CRIMINAL CYBER RESPONSE AND SERVICES BRANCH  
CYBER DIVISION

**TERMINOLOGY LEXICON**

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**(U) ~~LES~~ WARNING STATEMENT**

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**(U) INTRODUCTION**

(U//~~FOUO~~) The Cyber Intelligence Section (CybIS) of the Cyber Division periodically updates this Lexicon to provide various customers of the FBI with a current and consistent cyber language for their training, knowledge enhancement, and/or reference. The Reference Section of this Lexicon lists various sources and the sources and annotations, if applicable, are also individually attached to the related definitions.

**(U) CYBER TERMINOLOGY****A****(U) ACH (Automated Clearing House)**

- (U) An electronic network for financial transactions in the United States. ACH is typically used by government and commercial sectors for direct deposits, payroll, and vendor payments.

**(U) ADSL (asymmetric digital subscriber line)**

- (U) A variation of DSL that allows larger amounts of data to be sent over existing copper telephone lines.

**(U) aimbot:** See *bot*.**(U) alpha**

- (U) An early stage of product development.

**(U) alpha testing**

- (U) Alpha testing is geared towards resolving gameplay issues.

**(U) application**

- (U) Software that is used for business or entertainment. May refer to virtually any type of program from spreadsheets such as Excel to media players such as iTunes and virtual reality games such as Second Life. The term specifically excludes essential control software such as the operating system. Often associated with smartphone software, though term applies to programs on multiple mediums.

**(U) AR (Augmented Reality)**

- (U) Augmented Reality combines virtual images and information with real-world objects or locations, creating an information-rich environment displayed visually on a device such as a heads up display, smartphone, or computing tablet. AR is a similar but distinct concept from Virtual Reality in which a user is completely immersed in an artificial environment.

**(U) attribution**

- (U) The capacity and process to identify the nature, source, perpetrator, and pathway of an attempted or actual attack. This includes rapid and comprehensive coordination of intelligence reporting, law enforcement information, technical forensics information, and other relevant data streams to evaluate adversaries' capabilities, resources, supporters, and modus operandi in the context of a recent completed or attempted attack(s).

**(U) avatar**

- (U) An online persona, specifically the user's visual representation of him/herself, typically a 3-dimensional model or 2-dimensional icon/picture, used to interact with other users and with the environment in a virtual world.
- (U) A graphic identity a user either selects from a group of choices or creates to represent him/herself to other parties in a chat, instant messaging, or multiplayer gaming session.

**(U) backdoor**

- (U) A mechanism surreptitiously introduced into a computer system to facilitate unauthorized access to the system.

**(U) bandwidth**

- (U) The amount of data that can be transmitted in a fixed amount of time, usually expressed in bits per second or bytes per second for digital devices.

**(U) Battle.net**

- (U) Blizzard Entertainment's gaming service that offers voice communication, cloud file storage, leagues and ladders, achievements, and stat-tracking.

**(U) BBS (bulletin board system)**

- (U) An electronic message center. Most bulletin boards serve specific interest groups. Bulletin boards allow their users to dial in with a modem, leave messages, and review messages left by others.
- (U) A precursor to the Internet. Most of them are now Web-based (and also referred to as **message boards**); as opposed to dialing in with a modem as was their original "form." Using this system, images can be embedded in messages or postings.

**(U) beta**

- (U) A late state of product development.

**(U) beta tester**

- (U) Tests the usability of a program or game and looks for bugs that may occur when executed.

**(U) beta testing**

- (U) Focuses on finding and fixing bugs.

**(U) binaries**

- (U) A two digit (Base-2) numerical system which computers use to store data and compute functions. The reason computers use the binary system is because digital switches inside the computer can only be set to on or off, which are represented by a 1 or 0.

**(U) biometrics**

- (U) The use of unique physical characteristics to determine access or to use as a means of identification.

**(U) BIOS (basic input/output system)**

- (U) BIOS is the lowest level of software on a computer and acts as the interface between the hardware and the operating system. The BIOS boots the machine and interfaces all other software to the hardware. The BIOS contains all the code required to control the keyboard, display screen, disk drives, and serial communications.

**(U) Bitcoin**

- (U) A decentralized peer-to-peer (P2P) network-based virtual currency that is traded online and exchanged into US dollars or other currencies. Bitcoin, paired with third-party services, allows user to mine, buy, sell, or accept bitcoins from anywhere in the world. Bitcoin is unique because it is the first significant decentralized P2P network-based virtual currency. The way it creates, operates, and distributes bitcoins makes it distinctively susceptible to illicit money transfers, and manipulation through the use of malware and botnets.

**(U) BitTorrent**

- (U) A popular distributed file sharing service (e.g. KaZaA) that prevents people from downloading constantly unless they are willing to share in the overall transmission load on the network. BitTorrent inherently makes every downloading user an uploading user. Instead of downloading an entire file, BitTorrent breaks a file into chunks and distributes them among several participating users in order to decrease the bandwidth needed to download files. When you download a "torrent," you are simultaneously uploading it to another user. BitTorrent has become widely used for transferring huge program files as well as pirated files, such as movies, TV shows, and music.

**(U) blind authentication**

- (U) A cryptographic authentication process whereby one entity queries another to determine whether the second entity possesses certain information without disclosing the information directly. Blind authentication can be used to verify software or other data.

**(U) blog** (short for **Web log**)

- (U) A Web page updated at a consistent rate featuring one or more contributors that distribute news, articles, and stories on a particular subject(s) in one or more of the following forms: text, images, commentary, and videos.

**(U) Bluetooth**

- (U) A wireless personal area network (WPAN) for short-range transmission of digital voice and data. Using unidirectional radio waves, Bluetooth transmits through walls and other non-metal barriers.

**(U) bot-master (also called a bot-herder)**

- (U) A person who controls a botnet's operations and gives commands to the botnet for his/her own purposes or the purposes of persons who wish to use the botnet.

**(U) botnet** (or **bot**; for **robot network**)

- (U) A network of computers that run autonomously but can be controlled by a Command and Control computer or network of computers. Botnets can be used to perform denial-of-service attacks, send spam e-mail, host illegal content, and may aid in most other types of online criminal behavior.
- (U) A network of compromised computers remotely controlled by an attacker. A botnet is often referred to as a "zombie army."
- **(U) aimbot**: gives player-controlled characters perfect aim in a first-person shooter or third-person shooter game.
- **(U) combat macro bot**: a computer-controlled character based on artificial intelligence that plays the game following reasoning rules.
- **(U) poker bot**: programs written to play online poker automatically.

**(U) bridging**

- (U) The insertion of a hardware or software proxy between two networked game applications to facilitate cheating by manipulating the data exchanged between the game players.

**(U) broadband**

- (U) High-speed communications network, especially one in which a frequency range is divided into multiple independent channels, which allows the simultaneous transmission of signals. Examples include satellite, DSL, and cable.

**(U) browser**

- (U) A software application specifically designed to retrieve, interpret, and display Web pages.

**(U) browser-based games**

- (U) Games played through an Internet browser without requiring separate client software.

**(U) browser exploit**

- (U) Code, often hidden in a Web page, which uses a Web browser's vulnerabilities to perform unanticipated actions on a user's computer.

**(U) browser games**

- (U) Games played as applets in Web browsers. They are structurally simpler than contemporary stand-alone games. They are usually programmed in Flash or Java. These games tend to be designed to allow completion of play in as little as a few minutes. They are widely distributed online and find common use in filling (or distracting) time between other tasks.

**(U) brute force attack**

- (U) A cryptanalysis technique or other kind of attack method for discovering passwords, involving an exhaustive procedure that tries all possible combinations of numbers and characters, one-by-one, to gain access to a file, system, or application.

**(U) BSoD (Blue Screen of Death)**

- (U) A name derived from the blue screen with white text that appears on the screen as a result of a critical error in Microsoft Windows.

**(U) buffer overflow**

- (U) Occurs when a program or process tries to store more data in a buffer (temporary data storage area) than it was intended to hold. Buffer overflows are a common cause of malfunctioning software and can be used maliciously if executable code is entered into adjacent space and the computer runs it.
- (U) Buffer overflows can be used by hackers to force the targeted program to crash, delete data, or allow the hacker to transform the computer into a bot.

**(U) bug**

- (U) An error, defect, or fault in software that causes it to malfunction, produces an incorrect or unexpected result, or causes it to behave in unexpected ways.

**(U) bulletproof host**

- (U) A company that knowingly provides client anonymity and protection to cyber criminals from law enforcement or security firms.

**(U) bus**

- (U) A collection of wires through which data is transmitted from one part of a computer to another.
- (U) Series of wires connecting two or more separate electronic devices, enabling those devices to communicate.

C

**(U) cache**

- (U) Cache, in the broad sense of the word, is used to store frequently used data to make processes perform more efficiently.
- (U) Cache is a special section of fast memory, usually built into the CPU, used by the onboard logic to store information most frequently accessed by the CPU.

**(U) callback**

- (U) In cyber malware scenarios, the callback is a statement that refers the program to a server (IP address) outside the infected machine. In this case, the callback command requests further instructions or information from the server. In programming, the callback is a statement that directs the application or program to refer to another object or function.

**(U) carding**

- (U) The act of trafficking and/or fraudulent use of stolen credit card account information.

**(U) carding forums**

- (U) Web bulletin boards used for the exclusive purpose of buying, selling, and trading stolen identities, dumps, credit and debit cards, bank and brokerage accounts, and compromised computer systems; selling of computer operating system exploits; and marketing counterfeit identification documents.

**(U) casual game(s)**

- (U) A game targeting casual gamers, characterized by being based on few rules, thus, easy to learn, and having a more forgiving attitude towards play. They do not require a large time commitment to enjoy, and are made for a wide, non-descript demographic. Casual games can be played on many different platforms including personal computers, consoles, mobile phones, and handheld devices and are easily distributed through the Internet game portals and social networks. The three common genres are match 3, time management, and hidden objects.

**(U) CDMA (Code Division Multiple Access)**

- (U) A method of digital transmission that allows a large number of users to share access to a single radio channel by assigning unique code sequences to each user. The CDMA system is composed of mobile devices (wireless telephones and data communication devices), radio towers (cell sites), and an interconnection system (switches and data routers).
- (U) A form of multiplexing where the transmitter encodes the signal using a pseudorandom sequence which the receiver also knows and can use to decode the received signal. CDMA provides better capacity for voice and data communications than other commercial mobile technologies, allowing more subscribers to connect at any given time.

**(U) certificate-based authentication**

- (U) The use of SSL and certificates to authenticate and encrypt HTTP traffic.

**(U) chargeback (reversal)**

- (U) Occurs when a buyer asks their credit card issuer to reverse a transaction after it has been completed. There are three main reasons why a buyer will do this: 1) the purchased item never arrived; 2) the item was significantly different than advertised; and 3) their credit card was used without their permission to purchase the item fraudulently.

**(U) client-server architecture**

- (U) A computer network in which many clients (remote computers) request and receive service from a centralized server.

**(U) client-server games**

- (U) In these networked games, the player runs a copy of the game on their local system while another copy runs on a server. The player's client copy communicates the player actions to the server over a network or the Internet. The server coordinates the information transmitted by a number of clients and sends updates to all the connected clients. This linked play allows multiple players to interact with each other while each is playing from a different computer.

**(U) cloud computing**

- (U) A model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.

**(U) CND (computer network defense)**

- (U) Actions taken through the use of computer networks to protect, monitor, analyze, detect and respond to unauthorized activity within information systems and computer networks.

**(U) CNE (computer network exploitation)**

- (U) The unauthorized intrusion into a network for the purpose of viewing or collecting information, or stealing computing resources.

**(U) CNO (computer network operations)**

- (U) Comprised of computer network attack (CNA), computer network defense (CND), and/or related computer network exploitation (CNE).

**(U) combat macro bot:** See *botnet*.

**(U) Command and Control (C2)**

- (U) A computer configured to accept connections and direct the activities of infected computers. A cyber actor can use the Command and Control server to issue commands to conduct various activities, including distributed denial-of-service attacks, username/password harvesting, and sending spam.

**(U) computer game**

- (U) A game played on a computer using special software. See also, *gaming*.

**(U) Computer Fraud and Abuse Act**

- (U) Computer Fraud and Abuse Act specifies unauthorized access to the computers used by a financial institution, a federal government entity, or for interstate commerce, as a crime. Such crimes include knowingly accessing a computer without authorization; damaging a computer by introducing a worm, virus, or other attack device; or using unauthorized access to a government, banking, or commerce computer to commit fraud. Violations also include trafficking in passwords for a government computer, a bank computer, or a computer used in interstate or foreign commerce, as well as accessing a computer to commit espionage.

**(U) console**

- (U) A dedicated computer system designed for playing games that outputs to a television.

**(U//FOUO)** [redacted]

- (U//FOUO) [redacted]  
[redacted]  
[redacted]

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**(U) contract hacker**

- (U) A hacker that is not a government employee and is just on contract.

**(U) cookie**

- (U) A simple data file containing information related to a Web site visitor's activities. The information contained in a cookie can include such details as the user's site preferences or other personal information. Most cookies are saved on the user's computer and retrieved the next time the user visits the Web site.

**(U) CPU (central processing unit)**

- (U) "Brain" of the computer. Microprocessor that handles primary calculations for the computer (e.g. Intel Pentium).

**(U) crimeware kit**

- (U) A software kit programmed by a cyber criminal for sale to other cyber criminals. These kits may be for many different types of exploits – such as phishing, botnets, or Trojan development – and are sold on criminal hacking forums. They contain all the required tools and procedures for common Internet crimes.

**(U) critical infrastructures**

- (U) Systems and assets, whether physical or virtual, so vital to the United States that their incapacity or destruction would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.

**(U) cryptanalysis**

- (U) The study of a cryptographic system for the purpose of finding weaknesses in the system and breaking the code used to encrypt the data without knowing the code's key.

**(U) cryptography**

- (U) The art of protecting information by encrypting it into an unreadable format. Those who possess a secret key can decrypt the message into plain text.

**(U) CVV (Card Verification Value)**

- (U) A three- or four-digit number printed on the back of credit cards for security purposes, giving increased protection against credit card fraud. It is sometimes called Card Security Code (CSC).

**(U) cyber bullying**

- (U) Online harassment, which can be in the form of inflammatory statements, comments made in chat rooms, the sending of offensive or cruel e-mail, or even harassing others by posting on blogs, Web pages, or social networking sites. Unlike physical bullying, cyber bullying can often be difficult to track, as the person responsible for the acts of cyber bullying, can remain anonymous when threatening others online.

**(U) cybercrime**

- (U) Any electronic activity where an individual or group accesses a computer or computer network without authority, or exceeds authorized access and obtains, or attempts to obtain, any protected information.
- (U) Any electronic activity where an individual or group uses a computer or computer network to access and/or distribute protected or illegal electronic content.

**(U) Cyber Jihad, e-Jihad, Electronic Jihad**

- (U) The application of information technology and online campaigns to further the global "Islamic" jihadist movement by hacking/cracking, conducting cyber attacks, and other disruptive technological applications. (See also, *Cyberterrorism* and *Terrorist Use of the Internet*.)

**(U) cyber security**

- (U) Prevention of damage to, protection of, and restoration of computers, electronic communications systems, electronic communications services, wire communication, and electronic communication, including information contained therein, to ensure availability, integrity, confidentiality, and non-repudiation.

**(U) cyber signature**

- (U) An algorithm or hash (a number derived from a string of text) that uniquely identifies a specific piece of software.

**(U) cyberspace**

- (U) A domain characterized by the use of electronics and the electromagnetic spectrum to store, modify, and exchange data via networked systems and associated physical infrastructures. Cyberspace can also be thought of as the interconnection of human beings through computers and telecommunication, without regard to physical geography.
- (U) The interdependent network of information technology infrastructures, including the Internet, telecommunications networks, computer systems, and embedded processors and controllers in critical industries.

**(U) Cyberterrorism**

- (U) Disruptive or destructive acts perpetrated against noncombatant targets at the direction, on behalf, or in support of a terrorist group or their ideology, through the use of computer network attack or exploitation. Such intrusions/attacks are intended to intimidate or coerce a government or population in furtherance of a social, political, ideological, or religious agenda by causing disruption, inducing fear, or undermining confidence. (See also, *Cyber Jihad* and *Terrorist Use of the Internet*.)

**(U) cyber vulnerability**

- (U) A weakness in a computer, information system, or network which allows an attacker to reduce a system's information assurance. Vulnerabilities are the intersection of three elements: a system susceptibility or flaw; attacker access to the flaw; and attacker capability to exploit the flaw.

**D**

**(U) daemon**

- (U) A constantly-running computer program that triggers actions when it receives certain input (e.g. a print spooler). These programs were first used in the Unix operating system but have now been incorporated into the Unix-based Mac OS X.

**(U) data mining**

- (U) A method of data processing, using sophisticated data search capabilities and statistical algorithms to discover patterns and correlations in large preexisting databases. Normally this is used for models and forecasting. However, a malicious hacker may use data mining to determine the best audience for a particular type of attack, based on collected information.

**(U) D-CNA (destructive computer network attack)**

- (U) A computer network attack (CNA) that has a more permanent effect, requiring time, effort, and potentially, replacement of equipment.

**(U) DDoS (distributed denial-of-service)**

- (U) A type of denial-of-service attack in which an attacker uses malicious code installed on multiple computers to attack a single target.

**(U) defacement**

- (U) The method of modifying the content of a Web site in such a way that it becomes “vandalized” or embarrassing to the Web site owner.

**(U) developer (game):** See *game developer*.

**(U) developers kit (DevKit)**

- (U) A working proto.

**(U) DHT (Distributed Hash Table)**

- (U) A method for storing hash tables in geographically distributed locations in order to provide a failsafe lookup mechanism for distributed computing.

**(U) dictionary attack**

- (U) An attack that tries all of the phrases or words in a defined dictionary in order to crack a password or key.

**(U) digital gold currency**

- (U) A form of virtual currency based on ounces of gold where the currency value is dependent on the value of gold bullion.

**(U) digital item**

- (U) An image created by a developer and tracked through a database that can be transformed and exchanged among users. Its value is decided through rarity, utility, and resulting demand.

**(U) Digital Millennium Copyright Act (DMCA)**

- (U) A U.S. law enacted in 1998 that places restrictions on attempts to reverse-engineer or circumvent copyright protection technology such as Digital Rights Management. The European Union (EU) enacted an analogous law in 2001, called the EU Copyright Directive.

**(U) Digital Rights Management (DRM)**

- (U) Software tools that try to control the usage and distribution of digital media.

**(U) digital signature**

- (U) A method of checking the authenticity and/or authorship of a digital method. A digital signature is used to ensure the source and integrity of the signed data by combining a hash function with public key cryptography. The hash function detects data alteration and the public key function ensures that the data came from a source that knows the corresponding private key.

**(U) disruption**

- (U) A circumstance or event that interrupts or prevents the correct operation of system services and functions.

**(U) DNS (Domain Name System)**

- (U) An Internet service that translates domain names into IP addresses. Also called Domain Name Service, or Domain Name Server. *Example: The domain name cnn.com translates to IP address 64.236.16.52.*

**(U) domain**

- (U) A group of computers and devices on a network that are administered as a unit with common rules and procedures, defined by the IP address on the Internet.

**(U) domain hijacking**

- (U) An attack by which an attacker takes over a domain by first blocking access to the domain's DNS server and then putting his own server up in its place.

**(U) domain name**

- (U) A unique name on the Internet combined with a domain extension such as ".com," ".gov," or ".edu." Domain names are associated with an IP address through a DNS server.

**(U) dongle**

- (U) A small hardware device that plugs into the serial or USB port of a computer. Its purpose is to ensure that only authorized users can utilize certain software applications.

**(U) DoS (denial-of-service)**

- (U) The targeting of a computer and/or network connection in order to prevent legitimate users from accessing information or services.
- (U) A type of attack that floods a network with so many requests for information that regular service is slowed or interrupted.

**(U) Doxing**

- (U) A common practice among hackers in which a hacker will publicly release identifying information including full name, date of birth, address, and pictures typically retrieved from the social networking site profiles of a targeted individual.

**(U) DRAM (dynamic random access memory)**

- (U) A type of memory that must be constantly refreshed, or it will lose its contents. DRAM is slower than static RAM (SRAM), but it requires less power and is less expensive.

**(U) drop box**

- (U) Where cyber actors dump exfiltrated information for later retrieval.

**(U) DSL (digital subscriber line)**

- (U) A technology for bringing high-bandwidth information to homes and small businesses over ordinary copper telephone lines. A DSL line can simultaneously carry both data and voice signals, and the data part of the line is continuously connected.

**(U) dumps**

- (U) Generally refers to the information electronically copied from the magnetic stripe on the back of credit and debit cards.

**(U) dynamic DNS**

- (U) A method of keeping a domain name linked to a changing IP address, as not all computers use static IP addresses.



**(U) e-Gold (e-Gold Ltd., Nevis, West Indies)**

- (U) A digital gold currency issued by e-Gold Ltd. and backed by gold bullion in allocated storage. e-Gold is integrated into an account-based payment system that enables users to send specified weights of gold to other e-Gold accounts. Users must use an exchanger to convert e-Gold into other types of currency.

**(U) electronic payment systems**

- (U) Electronic payment systems provide a secure means of transferring money between parties to facilitate e-commerce and operate using real money or virtual currency. Electronic payment systems typically allow for an electronic account (e-wallet) to be held by an individual. E-wallets function similarly to bank accounts where currency can be debited from, or credited to an account. Electronic payment systems either allow payments to be made between individuals, vendors, and other merchants, or they only allow payments to be made between individuals or accounts.

**(U) emulators**

- (U) Software programs that emulate a different computing platform or microprocessor, and are sometimes used for piracy.

**(U) encryption**

- (U) The process of transforming information (referred to as plaintext) using an algorithm (referred to as a cipher) to make it unreadable to anyone except those possessing special knowledge (referred to as a key) that can be used to recover the plaintext.

**(U) End User License Agreement (EULA)**

- (U) The contract between a seller of software and a purchaser or a user of this software. These contracts have come under scrutiny in the U.S. because consumers cannot meaningfully negotiate with the licensor. Additionally, software companies have been imposing restrictions in the contracts that may not be deemed enforceable by a court of law. See also, *Terms of Service*.

**(U) engineering workstation**

- (U) An ICS component used to configure and control the devices that perform a physical process. Usually part of a SCADA system.

**(U) entertainment software publishing industry**

- (U) The companies that publish computer and video games for consoles, personal computers, and the Internet.

**(U) Ethernet**

- (U) A local area network (LAN) architecture developed by Xerox Corporation in cooperation with DEC and Intel in 1976.

**(U) e-wallet**

- (U) An electronic account that functions similar to bank accounts in which currency can be debited from, or credited to an account.

**(U) exchangers**

- (U) Online entities that, for a fee, exchange cash, virtual currency, or digital gold currency into the type of currency requested. In general, individuals must use an exchanger to deposit money into an electronic payment system account, unless the electronic payment system has a physical location. Due to this fact, exchangers are a vital part of the money flow for electronic payment systems and virtual currencies.

**(U) exploit**

- (U) A piece of software, piece of data, or sequence of commands that takes advantage of a particular vulnerability in order to cause unintended or unanticipated behavior to occur within computer software or hardware.

**(U) extreme gamer (or hardcore gamer)**

- (U) The most dedicated gamers. According to the Gamer Segmentation 2010 report from market research company NDP Group, the “extreme gamer” segment represents four percent of the total U.S. gaming population and spends 48.5 hours per week playing games.

## F

**(U) Facebook Credits**

- (U) A virtual game currency that can be purchased with a credit card or a mobile phone and used to purchase gifts for other users in the Facebook Gift Shop, or used in participating Facebook applications.

**(U) fast-flux network**

- (U) A type of Domain Name System (DNS) technique used to hide malicious Web sites through a series of rapidly changing Internet Protocol (IP) addresses associated with a single DNS entry.

**(U) field device**

- (U) A digitally controlled ICS component that performs physical functions in a process. Field devices provide sensor information such as temperature or pressure, to the ICS or execute actions such as closing a valve or turning on a light. Field devices are usually controlled by or communicate with PLCs or RTUs.

**(U) firewall**

- (U) A system designed to prevent unauthorized access to or from a private network. All packets entering or leaving the private network pass through the firewall, which examines each packet and blocks those that do not meet the specified security criteria.

**(U) firmware**

- (U) Software (programs or data structures) written onto read-only memory, that internally control various electronic devices. Similar to BIOS in a personal computer or server, the firmware controls the basic functions.

**(U) freelancing employee hacker**

- (U) Those that hack as a Foreign Intelligence Service (FIS) employee. An individual that gets paid by that FIS for other independent work.

**(U) FTP (File Transfer Protocol)**

- (U) A standard Internet protocol for transmitting files between computers on the Internet. FTP is commonly used to transfer Web page files from their creator to the computer that acts as their server; it is also commonly used to download programs and other files to one’s computer from other servers.

**(U) fuzz testing**

- (U) A tool that attempts to cause a program or network to fail by feeding it randomly generated data. It typically finds elementary bugs and is not a substitute for formal testing with test data that are carefully created.

## G

**(U) game console**

- (U) A specialized game machine. An electronic device used in playing video games on the screen of a television to which it is connected. See also, *gaming*.

**(U) game designer**

- (U) A game designer is responsible for the creation of the game script and the overall feel of the game.

**(U) game developer(s)**

- (U) Software developers who create games and are often referred to as “studios.” Developers may specialize in particular game types or platforms. Many game publishers have internal game development studios, but independent game developers are also prevalent.
- (U) 1) A company with whom a publisher contracts to create the software for a game. 2) An individual programmer, also known as a coder.
- (U) A person who entails the design of a piece of game software.

**(U) gamer**

- (U) Someone who plays video or computer games. The title “gamer” indicates a level of dedication above that of a casual user.

**(U) gateway**

- (U) A network point that acts as an entrance to another network.

**(U) geotagging**

- (U) Adding the current geospatial location of a camera or smartphone to an image or message, or adding the static geographic location to a street address. The location data contains latitude and longitude, although altitude and bearing (distance from North) may also be included.

**(U) GIS (Geospatial Information Systems)**

- (U) Tools used to gather, transform, manipulate, analyze, and produce information related to the surface of the Earth. This data may exist as maps, 3D virtual models, tables, and/or lists.

**(U) glitch**

- (U) A malfunction. A glitch is sometimes used as a synonym for a bug, but more often it refers to a hardware problem.

**(U) Google hacking**

- (U) Using basic search techniques and Google’s advanced operators (syntax to help refine a search) on the Google search engine to gather information and search for vulnerabilities to exploit on Web sites.

**(U) GPS (global positioning system)**

- (U) A GPS receiver calculates the distance to the satellites and uses the data from at least 4 of these to triangulate the receiver’s position.

**(U) GSM (Global System for Mobile Communications)**

- (U) GSM is one of the leading digital cellular systems. GSM uses narrowband TDMA which allows up to 8 calls to occur simultaneously over the same radio frequency.

**(U) GUI (graphical user interface) (pronounced “gooey”)**

- (U) Interface that enables the user to interact with a computer graphically by using a mouse or other pointing device to manipulate icons that represent programs or documents, instead of using only text (as in early interfaces).

**(U) hack**

- (U) To gain access to a computer illegally (through a network connection).
- (U) To write computer programs for enjoyment.

**(U) hacker(s)**

- (U) Individual or groups that employ the nonviolent use of illegal or legally ambiguous digital tools for purposes of exploitation or exploration in pursuit of personal or political ends.

**(U) hacker forums**

- (U) Web bulletin boards generally used as places for hackers to share new intrusion techniques, vulnerabilities, exploits, malicious software, and fraud techniques, as well as to advertise their products or services.

**(U) hacktivist**

- (U) One who hacks into a Web site or computer system in order to communicate a politically or socially motivated message. An example of hacktivism may be the defacement of an oil company's Web page by an environmental group.

**(U) hard-coded**

- (U) Program statements that are written into the computer program itself, in contrast to external tables and files, to hold values and parameters used by the program.

**(U) hardening**

- (U) The process of identifying and fixing vulnerabilities on a system.

**(U) hash**

- (U) Also called a message digest, a hash value is a number generated from a string of text. The hash is generated by an algorithm in such a way that it is unlikely that a different string of text will produce the same hash value.

**(U) hash table**

- (U) A lookup table that is designed to efficiently store non-contiguous keys (account numbers, part numbers, etc.) that may have wide gaps in their alphabetic and numeric sequences.

**(U) hash tag**

- (U) A method for organizing information for social media platforms. Users prefix their message with a # sign in order to enable other users to discover relevant posts.

**(U) header**

- (U) In e-mail, the first part of an e-mail message containing controlling and meta-data such as the subject, origin, and destination e-mail addresses, the path an e-mail takes, or its priority.

**(U) hexadecimal**

- (U) A sixteen digit (Base-16) numerical system represented by the values 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F. While computers represent data using the binary system, it is often more visually efficient to represent these numbers in hexadecimal format because it only takes one hexadecimal digit to represent four binary digits.

**(U) honeypot**

- (U) An Internet-attached server that acts as a decoy, luring in potential hackers in order to study their activities and monitor how they are able to break into a system. Honeypots are designed to mimic systems that an intruder would like to break into, but limit the intruder from having access to an entire network. If a honeypot is successful, the intruder will have no idea s/he is being tricked and monitored.

**(U) hop**

- (U) Each segment of a path a packet takes on its way to its destination.

**(U) hop point**

- (U) In computer networking, a hop point represents one portion of the path (e.g. a router) data takes between the source and destination.

**(U) host**

- (U) A computer that is connected to a TCP/IP network, including the Internet. Each host has a unique IP address.

**(U) hotspot**

- (U) A specific geographic location in which an access point provides public wireless broadband network services to mobile visitors through a wireless local area network (WLAN). Hotspots are often located in heavily populated places such as airports, train stations, and libraries.

**(U) HTTP (Hyper Text Transfer Protocol)**

- (U) The communications protocol used to connect to Web servers on the Internet or on a local network. Its primary function is to establish a connection with the server and send HTML pages back to the user's browser.

**(U) HTTPS**

- (U) When used in the first part of a URL, this term specifies the use of HTTP is enhanced by a security mechanism, which is usually SSL.

**(U) hub**

- (U) A common connection point for devices in a network. Hubs are commonly used to connect segments of a local area network (LAN).

**(U) HMI (Human-Machine Interface)**

- (U) A component of an ICS which presents status and function data to a human operator and provides control, monitoring, and alarm handling, often using an interactive graphical representation of the ICS. An HMI can be software running on computers or handheld devices, or presented in console panels and displays.

**(U) IA (indirect attack)**

- (U) An attack that does not target a certain group or company, but rather the overall community of computers or Internet users.

**(U) ICQ**

- (U) A popular instant messaging program where each registered user is identified by a unique number called an ICQ number.

**(U) ICMP:** An abbreviation for "Internet Control Message Protocol."

**(U) ICS (Industrial Control System)**

- (U) A general term for any device or system of devices that use electronic signals to monitor and control a physical process. ICS is often inaccurately called "SCADA". Types of ICS include:
  - DCS (Distributed Control System)
  - PCS (Process Control System)
  - EMS (Energy Management System)
  - AS (Automation System)
  - SIS (Safety Instrumented System)

**(U) IDN (internationalized domain names)**

- (U) IDNs are domain names that include characters used in the local representation of languages that are not written with the Latin alphabet (a-z). For example, an IDN can be written in Russian (Cyrillic), Chinese, or Arabic.

**(U) IED (Intelligent Electronic Device)**

- (U) IEDs are programmable field devices used in ICS networks to perform the physical process. IEDs can communicate with or act in place of other ICS components, especially PLCs or RTUs.

**(U) informal value transfer system (IVTS)**

- (U) Funds transfers that take place outside of the conventional banking system through non-bank financial institutions or other business entities whose primary business activity may not be the transmission of money.

**(U) information assurance**

- (U) Measures that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation. This includes providing for restoration of information systems by incorporating protection, detection, and reaction capabilities.

**(U) information system**

- (U) The discreet set of information resources organized for the collection, processing, maintenance, use, sharing, dissemination, or disposition of information.

**(U) information warfare (information operations)**

- (U) The use and management of information and information technology in pursuit of a competitive advantage over an opponent. May include spreading propaganda or disinformation to demoralize or manipulate the enemy and the public, linking it closely to psychological warfare. It also extends to electronic warfare, cyber warfare, CNO, CNA, and CND. It includes social network analysis, decision analysis, and human aspects of Command and Control.

**(U) integrity**

- (U) Assuring data has not been changed through storage or transmission; often achieved through the use of hashing function such as MD5, SHA-1, or SHA-2.

**(U) intranet**

- (U) A computer network with restricted access, as within a company, that uses software and protocols developed for the Internet.

**(U) intrusion**

- (U) The act of gaining unauthorized access to data or an automated information system.

**(U) IO (information operations)**

- (U//~~FOUO~~) The integrated employment of the core capabilities of electronic warfare, computer network operations, psychological operations, military deception, and operations security, in concert with specified supporting and related capabilities, to influence, disrupt, corrupt or usurp adversarial human and automated decision making while protecting our own.

**(U) IP (Internet Protocol)**

- (U) A packet-based protocol to deliver data across a network.

**(U) IP address**

- (U) Numeric address of a computer connected to the Internet.

**(U) IP spoofing**

- (U) The technique of sending messages to a computer using an IP address indicating the message is coming from a trusted host. It is often used to gain unauthorized access to a computer.

**(U) IPv4**

- (U) The most widely used version of the Internet Protocol. It defines IP addresses in a 32-bit format, written as a collection of 4 numbers each from 0-255 (e.g. 192.168.1.0).

**(U) IPv6**

- (U) The next generation version of the Internet Protocol created to address problems inherent in IPv4 as well as the lack of free IP addresses in IPv4. IPv6 uses 128-bit addresses, increasing the number of available addresses exponentially from IPv4. Because the addresses are so much longer, they are typically written in the format hhhh:hhh:hhh:hhh:hhh:hhh:hhh:hhh where hhhh is a four-digit hexadecimal number. IPv6 also adds increased security from IPv4.

**(U) IRC (Internet Relay Chat)**

- (U) A form of real-time Internet synchronous conference, mainly designed for group communication in discussion forums called channels, but also allowing one-to-one communication via private messages.

**(U) isometric games**

- (U) A game with a top down perspective, but on an angle giving a three dimensional appearance.

**(U) Jabber**

- (U) An open source communication protocol that can run a variety of applications, including instant messaging, multi-party chat, voice and video calls, file sharing, gaming, network management, remote systems monitoring, Web services, cloud computing, and collaboration tools.

**(U) JailBreak**

- (U) To get out of a restricted mode of operation. This most often refers to hacking a smartphone to gain access to the phone's restricted file system. This allows modifications to the look and feel of the devices and allows applications to be installed that are not available or approved by the manufacturer.

**(U) jump site**

- (U) A Web site containing hotlinks to various other sites, usually categorized by topic.

## K

**(U) kernel**

- (U) The central module of an operating system. It is the part of the operating system that loads first and remains in main memory. Typically, the kernel is responsible for memory management, process and task management, and disk management.

**(U) keylogger (or keystroke logger)**

- (U) A program that captures the keystrokes from a computer and sends them to a remote location, often for malicious purposes such as capturing user passwords. There are also programs that capture screenshots and mouse inputs.

## L

**(U) Lag**

- (U) In the client-server relationship, the effect a user perceives when there are long delays between the time a command is executed and the time its effects appear.

**(U) LAN (local area network)**

- (U) A group of PCs connected together via cabling, radio, or infrared that use this connectivity to share resources such as printers and mass storage.

**(U) latency**

- (U) In networking, the amount of time it takes a packet to travel from source to destination. Together, latency and bandwidth define the speed and capacity of a network.

**(U) Linux**

- (U) A freely distributable open source operating system that runs on a number of hardware platforms. The Linux kernel is based on Unix and is developed by Linus Torvalds.

**(U) LTE (Long Term Evolution)**

- (U) 4G technology for both GSM and CDMA cellular carriers. LTE uses a different air interface and packet structure than previous 3G systems, and is considered to be faster.

## M

**(U) MAC (media access control) address**

- (U) A unique code assigned and burned into most network hardware. Example: A MAC address for a network adapter would look like 00-08-74-4C-7F-1D.

**(U) macro**

- (U) The term "macro" is often used synonymously with "keyboard shortcut." Keyboard shortcuts are key combinations that perform commands, such as saving a file, closing a window, or copying and pasting data.
- (U) A small program or script that automates common tasks. These scripts are usually run within programs and can often be created by the user.

**(U) malcode (for malicious code)**

- (U) Programs that are written intentionally to carry out annoying or harmful actions. They often masquerade as useful programs or are embedded into useful programs, so that users are induced into activating them. Types of malicious code include Trojan horses, computer viruses, and worms.

**(U) malware** (for **malicious software**)

- (U) Any software that is developed for the purpose of infiltrating, or doing harm, to another computer. Examples of malware include Trojans, worms, viruses, and rootkits.

**(U) MAN (metropolitan area network)**

- (U) A data network designed for a town or city. MANs are larger than local area networks (LANs), but smaller than wide area networks (WANs).

**(U) metadata**

- (U) Data about data. Metadata describes how, when, and by whom a particular set of data was collected, and how the data is formatted. Metadata is essential for understanding information stored in data warehouses and has become increasingly important in XML-based Web applications.

**(U) micro-blogging**

- (U) A form of multimedia blogging that allows users to send brief text updates, or micromedia such as photos and audio clips, and publish them for the view of anyone or restricted groups. These messages can be submitted through a variety of means, including text messaging, instant messaging, e-mail, digital audio, or the Internet. Examples include Twitter and updating Facebook status.

**(U) mirror**

- (U) A Web or FTP server that has the same files on it as another server. Its purpose is to provide alternate access to files when the main server is not working or has heavy traffic.

**(U) modchips**

- (U) Additional memory chips, processors, and circuit boards used to support hardware modifications of game consoles. The most popular use of a modchip is to circumvent the internal protection schemes within the consoles to play pirated games.

**(U) modem** (short for **modulator-demodulator**)

- (U) A device that converts both digital bit streams into analog signals (modulation) and incoming analog signals back into digital signals (demodulation). Most commonly used to interconnect telephone lines to computers.

**(U) multifactor authentication**

- (U) A security procedure in which more than one form of authentication is used to verify the legitimacy of a transaction or log-on (e.g. using physical tokens with a digital code in addition to a password).

**(U) multiplexing**

- (U) Combining distinct signals into one single signal.

**(U) mutations**

- (U) Variations of an existing computer worm or virus; usually designated as .a, .b, or .c on the end of the worm name (i.e. Slammer.a, Slammer.b, and Slammer.c).

**N****nD-CNA (non-destructive computer network attack)**

- A computer network attack (CNA) that causes disruption to a network, which when the attack stops, the disruption goes away, such as a DDOS. These attacks can be fully recovered with minimal effort and with no loss of data.

**(U) NFC (Near Field Communication)**

- (U) A wireless technology that has a range of only a few inches. It is based on the magnetic field induction between readers and tags in a radio frequency identification (RFID) system. Adhering to the ISO 14443 international standard for smart cards, near field communication (NFC) is compatible with the countless ID card terminals in use around the world.


**Q**
**(U) obfuscate**

- (U) Any attempt to disguise an intruder's activity and/or location. Some examples are the use of hop points, spoofing, false information in software, encryption, etc.
- (U) An obfuscated code is a source or machine code that has been made difficult for humans to understand. Programmers may deliberately obfuscate code to conceal its purpose, prevent tampering, deter reverse engineering, or as a puzzle or recreational challenge for someone reading the code.

**(U) obfuscation**

- (U) The process of making it difficult to reverse-engineer the design of a program (code obfuscation) or the value of data (data obfuscation), even if the adversary has the obfuscated code or data in her possession.

**(U) octet**

- (U) A sequence of eight bits. An octet is an eight-bit byte.

**(U) ORB (operational relay box)**

- (U) A compromised computer system used as a proxy to conduct malicious activity. Used to attempt to anonymize traffic.

**(U) OS (operating system)**

- (U) Series of program and code that create an interface so users can interact with a system's hardware. Examples of operating systems include Microsoft Windows, MacOS, and Linux.

**(U) OSI (Open Systems Interconnection)**

- (U) A standard description or "reference model" for how messages should be transmitted between any two points in a telecommunication network.

**(U) OSI layers**

- (U) The process of communications between two end points in a network can be divided into layers, with each adding its own set of special related functions.
- (U) The seven most accepted layers are:
  - Physical layer
  - Data-link layer
  - Network layer
  - Transport layer
  - Session layer
  - Presentation layer
  - Application layer

**(U) packet**

- (U) A block of data formatted for most data communications protocols (e.g. TCP/IP). Packets contain headers, routing data, and the data being transported.

**(U) partitions**

- (U) Major divisions of the total physical hard disk space.

**(U) password cracking**

- (U) The process of recovering passwords from data that has been stored or transmitted by a computer. The purpose of password cracking is to help recover a forgotten password, to gain unauthorized access into a system, or as a preventative measure to test the strength of passwords.

**(U) password sniffing**

- (U) Passive wiretapping, usually of a local area network, to gain knowledge of passwords.

**(U) patch**

- (U) A fix to a program bug. A patch is an actual piece of object code that is inserted into an executable program. Patches typically are available as downloads over the Internet.

**(U) PCS (process control system):** See *ICS*.**(U) PDA (personal digital assistant)**

- (U) A handheld device that combines computing, telephone/fax, Internet, and networking features. A typical PDA can function as a cellular phone, fax sender, Web browser, and personal organizer.

**(U) PED (portable electronic device)**

- (U) Any electronic device with the capability of recording, storing, and/or transmitting information.

**(U) peer-to-peer (P2P) network**

- (U) A computer network topology where several computers are configured to allow certain files and folders to be shared with everyone or with selected users. Often applied to software that uses the Internet to create massive file sharing networks for downloading music, video, or large pirated software. Many software companies develop P2P programs, such as Napster, Limewire, and eDonkey, which allow users to connect to a network of other participating users.

**(U) penetration testing (Pen Testing)**

- (U) Test the external perimeter security of a network or facility.

**(U) PGP (Pretty Good Privacy)**

- (U) A computer program that uses public-key cryptography to provide privacy and authentication services for e-mail communications.

**(U) phishing**

- (U) The fraudulent attempt to get a person's private information, e.g. a username, a password, account numbers, etc. Usually sent via e-mail, phishers pretend to be from a legitimate source and 'bait' their target to click on a link to a false Web site. Many individuals and companies have been fooled, resulting in the theft of their sensitive information as well as millions of dollars every year.

**(U) PHP (Hypertext Preprocessor)**

- (U) A programming language that allows Web developers to create dynamic content that interacts with databases. PHP is used for developing Web-based software applications.

**(U) PII (personally identifiable information)**

- (U) Any information which could be used to distinguish or trace an individual's identity. Examples include: one's name, Social Security number, date and place of birth, mother's maiden name, address, and telephone number.

**(U) ping (packet Internet groper)**

- (U) A computer network administration utility used to determine the reach ability of a host on an IP network and to measure the round trip time for messages to travel from an originating host to a destination computer.

**(U) ping sweep**

- (U) A basic network scanning technique consisting of Internet Control Message Protocol (ICMP) ECHO requests that are sent to multiple hosts in order to determine which range of IP addresses map to live hosts (computers). If a given address is live, it will return an ICMP ECHO reply. Also known as ICMP sweep point-to-point communications.

**(U) PKI (public-key infrastructure)**

- (U) A framework for creating a secure method for exchanging information based on public-key cryptography. PKI uses a certificated authority (CA), which issues digital certificates that authenticate the identity of organizations and individuals over a public system such as the Internet.

**(U) PLC (Programmable Logic Controller)**

- (U) An ICS device that contains program logic to control the connected field devices that perform a physical process, such as control of machinery in a factory. The program logic to operate the field devices is typically stored in non-volatile memory in the PLC. PLCs are more commonly used in geographically centralized networks.

**(U) point-to-point communications**

- (U) A communications medium with exactly two endpoints without data or packet formatting.

**(U) polymorphism**

- (U) The occurrence of something in different forms. When referring to a computer virus, it is a virus that changes its binary sequence/underlying code when it replicates to produce a different signature. This is done to avoid detection by antivirus programs.

**(U) port**

- (U) An interface on a computer to which you can connect a device. In TCP/IP and UDP networks, an endpoint to a logical connection. Ports are assigned a numerical value from 0 to 65535 with ports 0 to 1024 reserved for certain services. Example: Port 80 is reserved for the Web (HTTP), and port 25 is reserved for e-mail (SMTP).

**(U) port scanning**

- (U) The act of systematically scanning a computer's ports. Since a port is a place where information goes into and out of a computer, port scanning identifies open doors to a computer. Port scanning can be malicious in nature if someone is looking for a weakened access point to break into a computer.

**(U) proc**

- (U) An abbreviation of “programmed random occurrence.” The benefits of added damage or other buffing enhancement that occurs randomly when an item strikes or is used.

**(U) programmer (game)**

- (U) Software developers who take the ideas, art, and music and combine them into a software project.
  - (U) **Engine or graphics programmers**: create the software that controls how graphics and animations are stored and ultimately displayed on the screen.
  - (U) **AI programmers**: create a series of rules that determine how enemies or characters will react to game situations and attempt to make them act as realistically as possible.
  - (U) **Sound programmers**: work with the audio personnel to create a realistically sounding environment.
  - (U) **Tool programmers**: often write software for artists, designers, and sound designers to use within the development studio.

**(U) proxy (or proxy server)**

- (U) A server that has been configured to forward Internet traffic between other computers. Internet traffic flowing through a specifically configured proxy will appear as if it originated at the proxy and not from the actual sending machine. Cyber criminals often use misconfigured computers as proxies, or they compromise computers and configure them to serve as proxies in an effort to conceal their identities.

**(U) public-key encryption**

- (U) A cryptographic system that uses two keys, a public key known to everyone and a private key known only to the recipient of the message. An important element to the public key system is that the public and private keys are related in such a way that the public key can be used to encrypt messages and the corresponding private key can be used to decrypt them. Moreover, it is virtually impossible to deduce the private key even if you know the public key.

**(U) publisher (game)**

- (U) Game publishers are responsible for product manufacturing and marketing, to include market research and advertising. Game publishers may finance game development through an internal development studio or external game developers. Publishers deal with licensing, localization, and other non-development issues.

R

**(U) race condition**

- (U) A situation where multiple systems, often computer programs, that ordinarily work together get into an undefined condition that often causes strange failures, because of poor handling of temporal updates.

**(U) RAM (random access memory)**

- (U) Memory that can be accessed at random, that is, in which any memory address can be written to or read from without touching the preceding address. This term is often used to mean a computer’s main memory.

**(U) RAT (remote access Trojan/remote administration tool)**

- (U) Remote access Trojans, sometimes referred to as remote administration tools, use a Trojan as the delivery mechanism for a malicious tool that is used to remotely connect and manage a single or multiple computers. Once an attacker has control of a system, they can do anything a full administrator can do, including sending spam or using multiple machines to launch coordinated DDoS attacks.
- (U) A software suite used to remotely connect and manage a single or multiple computers with a variety of tools such as a screen/camera capture or control, file management, shell control, computer [power] control, or registry management.

**(U) RDP (Remote Desktop Protocol)**

- (U) A secure network communications protocol, often associated with port 3389, for Windows-based applications running on a server. RDP allows network administrators to remotely diagnose and resolve problems encountered by individual subscribers. The protocol has presented some security issues, however. If an administrator opens a thin-client connection between computers, an attacker who is able to break into the RDP connection would have administrator privileges on both computers.

**(U) registry**

- (U) The central set of settings and information required to run a Windows computer.

**(U) remote access**

- (U) The practice of using a computer in one location to access the information on or communicate with a computer at a second location.

**(U) RFID (radio frequency identification)**

- (U) A data collection technology that uses electronic tags for storing data. The tag is made up of an RFID chip attached to an antenna, and may be battery powered or derive their power from the RF waves coming from the reader. RFID tags allow the identification of individual devices outside of the line of sight.

**(U) RIS (rich interaction system)**

- (U) An online service that provides a number of types of services designed to be used to enmesh players so that they will be less likely to cheat and pirate games.

**(U) ROM (read-only memory)**

- (U) A type of computer memory used to store data. Once data has been written onto a ROM chip, it cannot be removed and can only be read. Unlike RAM, ROM retains its contents when the computer is powered off. ROM is most often found in computers, calculators, phones, and peripheral devices such as laser printers.

**(U) root**

- (U) The top-level directory in a file system.
- (U) In UNIX-based operating systems, root is an administrator account.

**(U) rootkit**

- (U) A computer virus which consists of a program designed to take fundamental control of a computer system, without authorization by the system's owners and legitimate managers.
- (U) A program that hides itself from the standard utilities provided with an operating system. Many computer hacks try to "escalate privileges" to get root privileges that typically give the hacker total control of the computer.

**(U) root level access**

- (U) "A root user" refers to the user who has administrative privileges on a Unix or Linux server. While most users can only access data within their own folder directory, the root user can access any folder on the hard drive. This allows the root user to install system software updates, modify the access privileges of other users, and perform other administrative tasks.

**(U) router**

- (U) Network device that forwards data packets along a network; routers connect different networks together and are commonly used by ISPs and companies; routers are usually found at gateway points.

**(U) routing table**

- (U) A table stored on a router that keeps track of all possible paths (routes) between sources and destinations in a network and, in some cases, metrics associated with the routes.

**(U) RSS (really simple syndication)**

- (U) The de facto standard for the syndication of Web content, such as news feeds, events listings, news stories, and project updates.

**(U) RTU (Remote Terminal Unit or less commonly, Remote Telemetry Unit)**

- (U) An ICS device that interfaces messages between field devices and the master control system to manage the actions of a physical process. RTUs are more commonly used in geographically disbursed systems.

5

**(U) sandbox play**

- (U) In which players are encouraged to experiment and try whatever they choose with little or no significant consequences.

**(U) SCADA (Supervisory Control and Data Acquisition)**

- (U) A component of an ICS that receives and processes status data from and sends control commands to the devices that perform a physical process. "SCADA" is often inaccurately used to refer to an ICS.

**(U) scareware**

- (U) A warning message that pops up from a Web site that claims that the user's computer is currently infected with malware or not running properly, prompting the user to click on a link to download the "fix," which is actually malware itself.

**(U) script**

- (U) A file containing a list of commands which can be executed without user interaction.

**(U) server**

- (U) A computer or device on a network that manages network resources. Example: A print server is a computer that manages one or more printers.

**(U) SIMM (single inline memory module)**

- (U) A small circuit board that can hold a group of memory chips.

**(U) simulation**

- (U) An operational model based on something real.

**(U) smartphone**

- (U) A cellular telephone with built-in applications and Internet access. Smartphones provide digital voice service as well as text messaging, e-mail, Web browsing, still and video cameras, MP3 player, and video and TV viewing. In addition to their built-in functions, smartphones can run a myriad of applications, turning the once single-minded cell phone into a mobile computer.

**(U) SMS (Short Message Service)**

- (U) The transmission of short text messages to and from a mobile phone, fax machine, and/or IP address. Messages must be no longer than 160 alphanumeric characters and contain no images or graphics.

**(U) sniffer**

- (U) A program and/or device that monitors data traveling over a network. Sniffers can be used both for legitimate network management functions and for stealing information off of a network, such as user IDs and passwords, as it is transmitted across a local area network.

**(U) social networking sites (SNSs)**

- (U) Web sites that create a virtual community in which users create personal profiles, connect with other users and communicate (using a variety of platforms) online.

**(U) social engineering**

- (U) The act of obtaining or attempting to obtain otherwise secure data by conning an individual into revealing secure information.

**(U) social network**

- (U) A social network is a social structure comprising individuals and/or organizations connected by one or more interdependency such as common interest, friendship, dislike, beliefs, knowledge, etc.

**(U) spear phishing**

- (U) A type of phishing attack that focuses on a single user or department within an organization to criminally and/or fraudulently acquire sensitive information, such as usernames, passwords, and/or credit card details, by masquerading as a trustworthy entity.

**(U) spec**

- (U) An abbreviation for "specification" that refers to the build or specifications of a player's character in terms of skills, abilities, magic, powers, etc.

**(U) spoof**

- (U) An attempt by an unauthorized entity to gain access to a system by posing as an authorized user.

**(U) spyware**

- (U) A program included with an application that communicates with its home site unbeknownst to the user.

**(U) SQL (Structured Query Language)** (pronounced "sequel")

- (U) A computer language that is designed for database systems. Data retrieval programs (such as Microsoft Access) use this language to store and retrieve information input into a database.

**(U) SQL injection**

- (U) A form of attack on a database-driven Web site in which the attacker executes unauthorized SQL commands by taking advantage of insecure code on a system connected to the Internet, bypassing the firewall.

**(U) SRAM (static random access memory)**

- (U) A type of memory that is faster and more reliable than the more common DRAM (dynamic RAM). The term static is derived from the fact that it does not need to be refreshed like DRAM.

**(U) SSH (Secure Shell)**

- (U) A program to log into another computer over a network, to execute commands in a remote machine, and to move files from one machine to another. SSH provides strong authentication and secure communications over insecure channels. Beyond command line shells, other protocols can be tunneled across an SSH connection.

**(U) SSL (Secure Sockets Layer)**

- (U) A protocol for transmitting private documents via the Internet. SSL uses a cryptographic system that uses two keys to encrypt data – a public key known to everyone and a private or secret key known only to the recipient of the message. URLs that require an SSL connection start with https: instead of http:.

**(U) state**

- (U) The collection of the current values of all memory locations, all secondary storage, all registers, and other components of the system.

**(U) STC (Standard Telegraphic Code)**

- (U) A four-digit decimal code for electrically telegraphing messages containing written Chinese characters.

**(U) steganography**

- (U) The act of inserting a hidden message or picture in such a way that the existence of the message cannot be detected. This is different from cryptography, where the existence of the message is not disguised but the content is. A steganographic message appears in something else, like a picture or an article, but a message is hidden within it.

**(U) switch**

- (U) In networks, a device that filters and forwards packets between LAN segments.

**(U) tablet**

- (U) The current generation of tablets consists of smaller (7-11" screens) and lighter devices that attempt to combine the processing power of a laptop with many of the functions and applications readily available on smartphones.

**(U) tagging**

- (U) To mark something. In blogs, online shopping, and other social forums, tagging can be attaching a keyword to an article or object so that they can be found again or categorized. In online gaming, tagging allows the tracking of movement of other online characters.

**(U) TCP (Transmission Control Protocol)**

- (U) One of the main protocols in TCP/IP networks, which enables two hosts to establish a connection and exchange streams of data. TCP guarantees delivery of data and also guarantees that packets will be delivered in the same order in which they were sent.

**(U) TCP/IP (Transmission Control Protocol/Internet Protocol)**

- (U) The suite of communications protocols used to connect hosts on the Internet. Named from the Transmission Control Protocol (TCP) and the Internet Protocol (IP), which were the first two networking protocols defined in this standard.

**(U) TDMA (Time Division Multiple Access)**

- (U) A satellite and cellular phone air interface that interleaves multiple digital signals onto a single high-speed channel. For cellular systems, TDMA triples the capacity of the earlier analog method (FDMA). TDMA divides each channel into three sub channels providing service to three users into one. The GSM cellular system is passed on TDMA; GSM defines the entire network, not just the air interface.

**(U) temporary (temp) file**

- (U) A file that is created to temporarily store information in order to free memory for other purposes, or to act as a safety net to prevent data loss when a program performs certain functions.

**(U) Terrorist Use of the Internet**

- (U) Internet-based activity that facilitates terrorist operations, including, but not limited to: communication, fund raising, information gathering, recruitment efforts, propaganda, Web site administration, etc. (See also, *Cyber Jihad* and *Cyberterrorism*, which are explicitly excluded from this definition.)

**(U) third-party application (app)**

- (U) Any program, such as those for communication, security, or entertainment, designed to work within a particular operating system but written by individuals or companies other than the provider of the operating system.

**(U) TLD (top-level domain)**

- (U) The suffix attached to Internet domain names. Some common TLDs include .com, .gov, .edu, .org, .mil, .net, and .info. Many countries have two-letter country code top-level domains, such as .us for the United States and .ca for Canada.

**(U) The Onion Router (TOR)**

- (U) TOR is a free, anonymous communication tool that routes Internet traffic through a worldwide volunteer network of servers to conceal the user's location and usage from network monitoring.

**(U) Trojan (or Trojan horse)**

- (U) A useful or seemingly useful program that contains hidden code of a malicious nature.

**(U) trojanized communication**

- (U) An electronic communication, such as an e-mail, that appears safe but contains something harmful such as a virus or worm.

**(U) trusted insider**

- (U//~~FOUO~~) Individuals with authorized access to controlled information systems.

**(U) typo squatting**

- (U) Purchasing a domain name that is a variation on a popular domain name with the expectation that the site will get traffic off of the original site because of a user's misspelling of the name

U

**(U) UDP (User Datagram Protocol)**

- (U) A connectionless protocol that, like TCP, runs on top of IP networks. UDP provides very few error recovery services, offering instead a direct way to send and receive packets over an IP network.
- (U) A transport-layer protocol that delivers packets unreliably across the network. Used by DNS for queries and responses, as well as many streaming audio and video applications.

**(U) URL (Uniform Resource Locator)**

- (U) The global address of documents and other resources on the World Wide Web. The first part of the address indicates what protocol to use, and the second part specifies the IP address or the domain name where the resource is located.

**(U) user-created (generated) content**

- (U) Data or media contributed by the general public rather than by the game company or paid professionals and experts in the field. Second Life and Wikipedia are both examples of platforms populated with user-created content.

V
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**(U) video game**

- (U) A game played on a TV using a specialized game machine. See also, *game console* and *gaming*.

**(U) virtual currency**

- (U) A medium of exchange that is circulated over a network and is not backed by a government.

**(U) virtual machine**

- (U) A software emulation of a physical computer system. Often used for software/malware testing. Since virtual machines are purely software based, different virtual machines can easily be compared and examined for evidence of malware activity.

**(U) virtual reality**

- (U) Using computer technology to create a simulated, three-dimensional world that a user can manipulate and explore while feeling as if he were in that world. The goal is to give the user an immersive experience such that they cannot differentiate between the real world and the virtual. A strict definition would require 1) 3D images that appear to be life-sized from the perspective of the users and 2) the ability to track a user's motions and correspondingly adjust the images on the user's display to reflect the change in perspective.

**(U) virtual world**

- (U) Computer-simulated environments in which multiple users communicate or collaborate with one another in real time using two- or three-dimensional avatars. Virtual worlds are most commonly applied to computer or console gaming, but there are business and social applications as well.
- (U) Any computer-generated physical space, represented graphically in three dimensions that can be experienced by many people at once.

**(U) virus**

- (U) A program that contains hidden code, which usually performs some unwanted function as a side effect. The hidden code in a computer virus replicates by attaching a copy of itself to other programs and may also include an additional payload that triggers when specific conditions are met.

**(U) vishing**

- (U) The telephone equivalent of phishing, using the telephone in an attempt to scam the user into surrendering private information that will be used for identity theft. Typically uses VoIP and is hard to trace when compared to typical telephone fraud.

**(U) VoIP (Voice over Internet Protocol)**

- (U) A category of hardware and software that enables people to use the Internet as the transmission medium for telephone calls by sending voice data in packets using IP rather than by traditional circuit transmissions of the public switched telephone network (PSTN).

**(U) VPN (Virtual Private Network)**

- (U) Encrypted connection over the Internet between a computer/remote network and a private network. Offices often use VPN to enable employees to use computers at home to access the office's internal network.

W
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**(U) WAN (wide area network)**

- (U) A computer network that spans a relatively large geographic area. A WAN typically consists of two or more local area networks (LANs).

**(U) war dialing**

- (U) A technique of using a modem to automatically scan a list of telephone numbers, usually dialing every number in a local area code to search for unknown computers, BBS systems, or fax machines. Hackers use the resulting lists for various purposes; hobbyists use them for exploration; crackers use the lists for password guessing.

**(U) war driving**

- (U) The act of searching for Wi-Fi wireless networks by a person in a moving vehicle, using a portable computer or PDA.

**(U) warez (pronounced "wears")**

- (U) A term widely used by hackers to denote illegally copied and distributed commercial software from which all copy protection has been removed.

**(U) WebMoney**

- (U) A virtual currency and irrevocable electronic payment system that allows user to deposit, transfer, loan money, make withdrawals, and maintain accounts in a number of currencies.

**(U) WebMoney Transfer Online Payment System (WM Transfer Ltd., Russia)**

- (U) Founded in 1998, WebMoney provides instant payment transfers using a protected communication system. WebMoney services include dedicated digital wallets that can be funded with various WebMoney virtual currencies, bank transfers to and out of WebMoney, bulk payment services, file exchange, and a secure messaging service.

**(U) Wi-Fi**

- (U) The trademark of the Wi-Fi Alliance, which certifies wireless Internet devices according to the IEEE 802.11 standards. As a result, the term Wi-Fi has become synonymous with wireless devices and is commonly used as short hand for wireless Internet.

**(U) wiki**

- (U) A collaborative Web site which comprises the perpetual collective work of many authors. A wiki allows anyone to edit, delete, or modify content that has been placed on the Web site using a browser interface, including the work of previous authors.

**(U) WiMAX (Worldwide Interoperability for Microwave Access)**

- (U) A wireless wide area network (WWAN) that conforms to certain parts of the IEEE 802.16 standard. WiMAX allows ISPs and carriers to offer last mile connectivity to homes and businesses without having to route wires, providing high-speed data on the go.

**(U) WLAN (wireless local area network)**

- (U) A type of local area network that uses high-frequency radio waves rather than wires to communicate between network nodes.

**(U) worm**

- (U) A computer program that replicates itself over a computer network and usually performs a malicious action.



**(U) XSS (cross-site scripting)**

- (U) XSS is a security breach that takes advantage of dynamically generated Web pages. In an XSS attack, a Web application is sent with a script that activates when it is read by an unsuspecting user's browser or by an application that has not protected itself against cross-site scripting. An attacker who successfully launches an XSS attack can change user settings, hijack accounts, poison cookies with a malicious code, expose SSL connections, access restricted sites, and even launch false advertisements.



**(U) zero-day exploit**

- (U) Any vulnerability that is exploited immediately after its discovery. This is a rapid attack that takes place before the security community or the vendor knows about the vulnerability or has been able to repair it.

**(U) zombie**

- (U) A computer that has been compromised by a hacker; it is usually one of several computers in a botnet.

**(U//~~FOUO~~) GAMING TERMINOLOGY****A****(U) accumulating wealth**

- (U) Gathering – currency accumulation, either through combat or collection.
- (U) Creation – creation does not involve making new items that had not yet been contemplated by the designers, but rather involves combining static elements of the world using a recipe to make an item that has greater value than what the parts do individually.
- (U) Arbitrage – when one non-player character (NPC) sells a virtual item for less than another is paying for the same item. Typically limited by time or in-world geography.

**(U) action overrun**

- This type of attack on a game works when games do not explicitly validate the intervals between allowable game actions. The game's state does not retain information about when previous actions have occurred. Common examples are players who can move far too fast or fire extraordinarily quickly compared to other players.

**(U) advergence**

- A game that promotes a product, service, or brand that is typically provided for free.

**(U) AE**

- An abbreviation for "area effect." AE is a reference to the range of spells or abilities. See also, *AOE*.

**(U) alternate reality game**

- (U) A game in which the players are delivered or discover content in the real world, through web sites, text messages, and other multimedia methods. The content may also develop dynamically, according to the actions of the players.

**(U) AO:** An abbreviation for the game "Anarchy Online."

**(U) AOE:** An abbreviation for "area of effect."

**(U) application games**

- (U) Full-scale games that are usually distributed on CDs or DVDs or game cartridges. They are the traditional products of the commercial games industry.

**(U) Auctioneer**

- (U) A popular modification, or "ad-ons," for World of Warcraft, which analyzes the price of all the items for sale, estimated average prices, and other statistics to guide buying and selling.

**B**

**(U) bio:** An abbreviation for "biological," usually used to indicate a bathroom break.

**(U) BoE**

- (U) An abbreviation for "bind on equip." This term refers to items that become soulbound to the player after they have been equipped. In other words, the item can be traded as long as no one equips it. The term was popularized by World of Warcraft.

**(U) BoP**

- (U) An abbreviation for “bind on pickup.” This term refers to items that become soulbound to the player after they have been picked up by a monster. In other words, the item cannot be traded once a player picks it up. BoP items commonly cause looting conflicts and disputes during game-play.

**(U) boss**

- (U) The hardest monster to kill in any given environment. He’s usually encountered near the end of a level, after a player has dealt with all the “grunts.”

**(U) boss monster**

- (U) A large or difficult non-player character that has to be defeated at the end of a game or a segment of a game. Bosses can sustain more damage and have more effective attacks than normal monsters (mobs).

**(U) botting**

- (U) In a massively multiplayer online game (MMOG), the process of scripting a game such that it essentially plays itself, autonomously performing actions that increase the value of a player’s character.

**(U) buff**

- (U) In an MMOG, an act of temporarily boosting a character attribute or combat ability.

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 c
 

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**(U) casual gamers**

- (U) An audience segment that spends less money and time playing video games than the hardcore gamer audience. However, many casual gamers still play games every day.

**(U) cheating**

- (U) In a game, any action that is an attack on the game application or that breaks the terms of service to which all players agree when they enter the game world.
- (U) “In any game, all players start on an equal basis. Otherwise the game is not fair. Games that are not fair are not fun.” (Exodus to the Virtual World, by Edward Castronova)

**(U) class**

- (U) In an MMORPG, a class is a professional archetype, such as a warrior or a healer, which has corresponding designations for what a character can and cannot do. In general, different classes offer a different game-play experience.

**(U) client-server architecture**

- Game clients, the players, connect to online servers (the virtual worlds). A client performs graphics rendering to update a user’s avatar and other visuals while server side-software supplies the data the client needs to perform graphical and other updates. This means the servers constantly update the client software with the sights, sounds, and happenings in proximity to the player’s avatar. When an avatar in the game performs an action, such as casting a spell, the action is sent to the server, processed, and forwarded to all relevant game clients so that other players can witness it in near real time.
- A game client, running on a user’s machine, typically performs graphics rendering to update a user’s avatar and other visuals while server side-software supplies the data the client needs to perform graphical and other updates.

**(U) CoH:** An abbreviation for the game “City of Heroes®.”

**(U) context aware game**

- (U) A context aware game uses physical and digital information about the current status of the player to shape how the game is played. The integration of physical and digital context moves the experience beyond what users have come to expect of games played in either the digital or physical worlds alone.

**(U) cooperative gameplay**

- (U) A multiplayer game in which all the human players play with, instead of against, each other.

**(U) crafting**

- (U) In an MMORPG, a general category of skills that allows players to manufacture objects from raw resources.

D
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**(U) d00dz**

- (U) In an MMOG, a scornful term for stupid, greedy or unimaginative players.

**(U) Damage over Time (DoT)**

- (U) In an MMORPG, DoT refers to a class of spells that deals damage over a period of time.

**(U) Damage per Second (DPS)**

- (U) In an MMORPG, DPS is used when calculating weapons speed and damage.

**(U) DAoC:** An abbreviation for the game "Dark Age of Camelot."

**(U) debuff**

- (U) In an MMORPG, an offensive spell cast on enemies that weakens an attribute or combat ability. The opposite of buff.

**(U) direct damage (DD)**

- In an MMORPG, a DD refers to a class spells and abilities that allow player to damage enemies from a distance.

**(U) DKP (dkp, dragon kill points)**

- (U) In an MMORPG, an elaborate score-keeping system guilds use to fairly distribute loot based on participation and contribution to the guild.

**(U) DoT:** An abbreviation for "damage over time."

**(U) DPS :** An abbreviation for "damage per second."

**(U) drop:** See *loot*.

**(U) dual-currency model**

- (U) In games, having one virtual game currency that is paid for using real money and exchanged between sellers and buyers and another virtual game currency that is gathered through activity and progression in the game.

**(U) dungeon**

- (U) In an MMORPG, a self-contained area or zone of the game geared towards small groups of no more than five players.

**(U) duping**

- (U) In an MMORPG, the exploitation of any feature of a game to duplicate virtual items of value in a way that was not intended by the game provider. Dupes allow players to auto-generate enormous amounts of virtual wealth.

**(U) dwell**

- (U) In Second Life, a metric measuring how much user traffic is at a location. Until mid-2006, Linden Lab offered US dollar rewards for landowners with high dwell.

## E

**(U) EQ:** An abbreviation for the game "EverQuest."

**(U) escorting**

- (U) In an MMOG, a (paid) service where the escort fights alongside the client.

**(U) experience points (XPs)**

- (U) In games, XPs are earned for accomplishments, such as killing a monster or completing a quest.

**(U) exploit (bug)**

- (U) Flaws (software defects) in a game as implemented that give a player an advantage. Exploits do not require any modification of the game's software or data and can only be fixed through corrections to the game's design and implementation. Dupes are a kind of exploit. According to software security experts, the gaming underground places a high real money value on exploits in games because the vulnerabilities can be turned into macros and sold to real-money traders.

**(U) exploiter**

- (U) A type of MMORPG player that focuses their energy on discovering and using bugs to collect economic rewards.

## F

**(U) faction**

- (U) In an MMORPG, a group or organization. Some factions are diametrically opposed, such as the Horde and Alliance factions in World of Warcraft.

**(U) feelies**

- (U) Physical items included with a game purchase. Feelies were anti-piracy techniques pioneered by Infocom.

**(U) first-person shooter**

- (U) A type of game where the player has the first person perspective.

**(U) for the win (FTW)**

- (U) In a computer or video game, FTW refers to the act, ability, or event that is responsible for a victory.

**(U) free-to-play (F2P)**

- (U) Games in which users can access game content for free, but have the option to enhance the game play experience by purchasing virtual items, such as weapons or accessories for their avatars, through microtransactions or opt to pay for extra, premium content.

**(U) game client**

- (U) Software programs that run on a user's personal computer (PC). Client software takes input from the user and communicates with the central servers over the Internet. The client software usually displays a view of the virtual world showing location, other players, and messages. See also, *client-server architecture*.

**(U) Game dollar (G\$)**

- (U) A virtual game currency backed by the Cyber Coin Bank and used in virtual worlds, including the OpenSim HyperGrid. OpenSim is a platform for operating a virtual world and supports multiple independent regions, connecting to a single centralized grid.

**(U) game literacy**

- (U) A game playing experience. Players with considerable game literacy can be considered hardcore and those without this experience can be considered casual.

**(U) game masters (GMs)**

- (U) In an MMORPG, characters used by employees of the company that created a game. They monitor the actions of the game world, answer the questions and complaints of the players, and mediate disputes. They have absolute control and power within the game.

**(U) game mechanics**

- (U) The rules of the game that determine how play will be structured.

**(U) game programmer:** See *programmer* (game).

**(U) games distribution**

- (U) The shipping of game hardware and software to retail stores.

**(U) gaming**

- (U) Playing electronic games. Games can be played by an individual with a specialized game machine (video game console) or a computer and game software. Many games are designed for multiple players who can interact and compete with each other using a computer over a local area network or the Internet. (Here the term does not refer to gambling, such as "playing for a stake," or "taking advantage of" someone.)

**(U) gank**

- (U) In an MMORPG, a large group's act to overwhelm and kill one player.

**(U) ganking**

- (U) A frowned-upon approach to PvP in MMOGs involving attacking players when they are compromised in some way.

**(U) geometric leveling**

- (U) In an MMORPG, each level requires the player to gain more experience points (XPs) to advance to the next higher level. For example:
  - Level 1 to Level 2 requires 15 XPs
  - Level 2 to Level 3 requires 20 XPs
  - Level 3 to Level 4 requires 35 XPs
  - Level 4 to Level 5 requires 50 XPs

**(U) gifting**

- (U) In an MMOG, the one-way transfer of a virtual item through an in-game trade window.

**(U) gimped**

- (U) In an MMOG, a character that is not maximized. See also, *utility maximizer*.

**(U) gold farming**

- (U) In an MMOG, the process of gathering virtual items within a video game (to include currency, armor, weapons, skills, etc.) for the purpose of selling those items in exchange for real-world money. Gold farming may be done manually with an avatar controlled by a real person, using automated software (bots), exploiting software flaws in the game, or by hacking legitimate game accounts and stealing the virtual inventory. Because it is difficult for a single individual to make a worthwhile profit this way, gold farming is often practiced by semi-professional groups (firms) that organize and operate like a service-oriented business. Gold farming is predominantly associated with MMORPGs.

**(U) gold farming firms**

- (U) Individuals who have recognized that there is real money to be made from selling virtual game currency have set up farming operations using low wage labor in developing countries. In these "factories," workers may spend shifts playing popular MMORPGs or monitoring game bots/macros for the sole purpose of gathering virtual resources for resale. One estimate claims that there are between 100,000 to one million people employed in this industry. Gold farming firms can be any size.

**(U) gold frauding**

- (U) The use of actual criminal techniques such as phishing, account theft, identity theft, and credit card fraud, to buy and sell virtual currencies and items for games.

**(U) gold sinks**

- (U) In an MMOG, particularly in Ultima Online, typically expensive luxury virtual items that can only be bought from non-player characters, thus, taking large sums of money out of circulation.

**(U) griefing**

- (U) Behavior in a virtual world intended to disrupt the experience of others. Examples include unprovoked harassment through game chat channels, repeatedly killing a player as soon as they re-spawn, and behavior not related to the winning condition of the game.

**(U) grinding**

- (U) In an MMORPG, a player-invented term used to describe doing repetitive tasks to gain experience or advance a character. Frustration over the time involved in this type of game-play, as well as the boring nature of the tasks, is one reason for the success of gold farming in MMORPGs.

**(U) guild**

- (U) In an MMOG, a semi-permanent player group joined together for a common goal or purpose.

**(U) gwonri-geum or gwonrigeum (phonetic)**

- (U) A South Korean term that describes a premium or the value of a business over and above the combined value of tangible assets. The formation of 'gwonri-geum' in an MMORPG is principally triggered by the rarity of certain items.

## H

**(U) Habbo® Coins**

- (U) The currency used in Habbo to pay for extra features like furniture. Five Habbo coins are for one U.S. dollar and may be obtained through a monthly subscription, purchased as a pre-paid card, and purchased with a credit card or through short message service (SMS) text messages.

**(U) Habbo® Marketplace**

- (U) The official place where Habbo users can buy and sell items. Users may sell items which are “tradeable” and not listed in the catalogue at the time of posting the item. Selling items cost 1/5 of a coin for each listing.

**(U) hardcore gamer:** See *extreme gamer*.

- (U) An audience segment associated with buying and playing a considerable volume of games.

**(U) hit points/health**

- (U) In an MMORPG, the number or variable of a character, which is reduced after each hit by the number of points of damage that resulted from the algorithm.

## I

**(U) INC:** An abbreviation for “incoming.”

**(U) instance**

- (U) In an MMORPG, a new copy of a location in a game, often a dungeon, that is created for a particular group of players. Instanced dungeons are then parallel worlds allowing different groups of players to explore the same dungeon.

**(U) Interstellar Credits (ISK)**

- (U) The currency in the MMORPG EVE® Online. According to the EVE Online End User License Agreement, “You may not transfer, sell or auction, or buy or accept any offer to transfer, sell or auction, any content appearing within the Game environment, including characters, character attributes, items currency and objects.”

## K

**(U) Keygen**

- (U) An unauthorized program that can generate a game license key that cannot be detected as fraudulent.

**(U) kill stealing (KS)**

- (U) In an MMOG, a player attacks the same creature as another player and collects the reward for the kill instead of the person who originated the combat.

**(U) kite**

- (U) In an MMOG, to lure a mob or player around while attacking it in some capacity.

**(U) kite an Enemy**

- (U) In a MMOG, a phrase which means to “make it chase you.”

**(U) KoS:** An abbreviation for “kill on sight.”

**(U) KS:** An abbreviation for “kill stealing.”

**L**

**(U) LD:** An abbreviation for “link dead.”

- A player is disconnected from a game.

**(U) level**

- (U) To bring a game character to the next level, generally through the accumulation of experience points.

**(U) LFG:** An abbreviation for “looking for group.”

**(U) LFM:** An abbreviation for “looking for more.”

**(U) LFT:** An abbreviation for “looking for team.”

**(U) Linden dollar (L\$)**

- (U) The currency for all monetary transactions in Second Life that can be traded for real world currencies on the official LindeX and on third-party exchanges. According to the Second Life Terms of Service, each Linden dollar is a virtual token representing limited license permission to access features of Second Life. Linden dollars are not real currency and are not redeemable for any sum of money from Linden Lab at any time. (secondlife.com)

**(U) LindeX™**

- (U) The official Second Life Linden dollar (L\$) public currency exchange in which people who want to sell Linden dollars meet people who want to buy them. According to the Second Life Terms of Service, the terms “buy” and “sell” indicate the transfer of license rights to use Linden dollars.

**(U) localization of games**

- (U) The modification of games from the originally released version to a version which is targeted to local users in a geographic region.
- (U) The term covers a broad range of activities, including translating text, writing subtitles, dubbing voices, altering content that is deemed unsuitable for some markets, and creating new content all together.
  - (U) **sim-ship localization:** The localization process that will give a game simultaneous worldwide release in all supported languages.
  - (U) **post-gold localization:** The process of localizing a game after the original version has been completed.

**(U) loot (drops)**

- (U) In an MMOG, virtual game currency or virtual items that are dropped by monsters (mobs) when defeated.

**(U) low-probability spawns (Rewards/Loot/Drops)**

- (U) In an MMORPG, players have to wait for a non-player character (NPC) that rarely appears to complete a high value quest or gather a certain item.

**M**

**(U) macro**

- (U) In online games, user-made tools and scripts used to automate game play. See also, *bot*.

**(U) machinima**

- (U) A video or movie built from a 3D graphics engine, typically a game.

**(U) magic circle**

- (U) A concept in game studies that refers to the artificial context created by the rules of the game. A 'frame' that separates the game from the real world.

**(U) mana**

- (U) A commonly-used pool of magical potential, the magical equivalent of health points.

**(U) massively multiplayer online game (MMOG)**

- (U) A structured computer or video game in which thousands of users can participate at the same time over the Internet. These games generally operate under a client-server architecture. MMOGs are a type of virtual world.

**(U) massively multiplayer online role-playing game (MMORPG)**

- (U) A popular kind of MMOG where game-play has an element of role-playing and where the combat mechanics traditionally include factions, classes, quests, raids, instances, boss monsters, pets, guilds, crafting, and player-versus-player (PvP), and player-versus-environment (PvE) options. A player takes the role of a person or creature, typically represented by a graphical avatar. The role-playing aspect of the game is that the characteristics and assets of the avatar can change over time.

**(U) meatshield**

- (U) In an MMOG, a term used to describe a close combat character in a situation where characters who can attack at a distance but who are more vulnerable to direct physical assaults follow behind a close combat character and wait for him to engage the enemy. The distance character can this "steal" the kill with little risk to himself, as the monster (mob) will concentrate on the first character who attacked it.

**(U) mez**

- (U) An abbreviation of "mesmerize," referring to a collection of abilities that temporarily stun or immobilize enemies.

**(U) min-maxing**

- (U) Character optimization. Creating game characters by calculating statistics, planning their future routes, and using any other methods to make their characters the statistically best character possible.

**(U) mod**

- (U) A term for a modification of game software or hardware.

**(U) mod (software):** See *software mod*.

**(U) modding (mod)**

- (U) Modifying the software or hardware of a game console to manipulate its behavior.

**(U) modification**

- (U) A version of a popular game that has been changed or added to by the amateur gaming community.

**(U) monster (mob):** See *non-player character*.

**(U) moral economy**

- (U) In an MMORPG, a principle of game play held by some players that assert economic transactions should be governed by social and cultural rules or ethics which transcend or precede the logic of the marketplace. These players assert a simple foundational argument that these are games and that the guiding question that should govern all player actions should be, “Is this fun?”

**(U) MT:** An abbreviation for “mistell.”

**(U) MUD (Multi-User Dungeon)**

- (U) A generic term used to refer to the textual predecessors to the modern graphical MMOG. Players typically use a simple telnet network protocol terminal client to access the game. Interaction is typically done with elaborate textual commands.
- (U) Specifically, the name of a text-based game developed by Roy Trubshaw and Richard Bartle at Essex University.

**(U) MOO:** An abbreviation for “MUD Object Oriented.”

- (U) MUD users that are able to create their own content—both static and dynamic.

**(U) mule**

- (U) In an MMOG, an alternate (alt) character that was created explicitly for the purpose of being able to check auction houses or store extra items. These characters are seldom actually played.

**(U) mulejacker**

- (U) In an MMOG, a term for a player (exploiter) who surreptitiously follows another player who intends to transfer items from one of his characters to another by dropping the items. The mulejacker then rushes in at the moment when the player is in between his two characters and grabs the items.

N

**(U) nerf**

- (U) In an MMOG, soften, degrade, or reduce an ability, item, player, or action. Usually this is a term applied when a game company acts because it perceives that something is too powerful.
- (U) A change to the parametric values or design of a game to reduce a perceived imbalance, usually by reducing the effectiveness of a particular option.

**(U) ninja looting**

- (U) In an MMORPG, taking resources by violating the rules of good sportsmanship.
- (U) In an MMOG, the purposeful and malicious looting of a drop from a monster that does not follow the rules set by the group. In a sense, the item is stolen.

**(U) Nintendo DS™**

- (U) Nintendo’s handheld game console that was released in 2004. It is distinguished by the use of a dual screen and is backwards compatible with Nintendo’s previous GameBoy Advance handhelds. It also supports Wi-Fi networking.

**(U) Nintendo Wii™**

- (U) Nintendo’s game console that was released in 2006. It is distinguished by its use of the Wiimote handheld controller that recognizes gestures and movement in three dimensions. It is also backwards compatible with Nintendo’s previous console, the GameCube™, and includes Internet access via WiFi. Unlike its competitors, the Wii does not have a standard hard drive, only Flash memory. As of March 2011, Nintendo had sold more than 85 million Wiis.

**(U) Nintendo Wii Speak**

- (U) An accessory offered by Nintendo for the Wii system which allows users to talk with other users who have the Wii speak accessory. It allows an unlimited number of people who have the Wii Speak channel, a microphone, and traded friend codes, to chat with one another. The Wii Speak can send audio messages to others when they are not online.

**(U) NPCs (non-player characters)**

- (U) In an MMOG, characters controlled by the artificial intelligence of the game and typically divided into monsters (which one kills) and others (with whom one may trade, receive quests, or learn information).

**(U) nuke**

- (U) Cast the highest damage spell or spell combination to effectively pull or finish off a NPC. Mages, often, are the most effective class in highest burst damage.

## O

**(U) OOC:** An abbreviation for “out of character.”

**(U) OOM:** An abbreviation for “out of mana.”

## P

**(U) Pat**

- (U) An abbreviation of “patrol” that is used in reference to monsters (mobs) following a set wandering path.

**(U) PB:** An abbreviation for “point blank.”

**(U) PC:** An abbreviation for “player character.”

**(U) peripheral (accessory)**

- (U) In gaming, a device that is not an essential part of the console or game, but offers extra functionality. Examples include communication extras such as: web cameras and headsets, and game-play extras such as steering wheels and mock-weapons.

**(U) pet system**

- (U) In an MMORPG, an aspect of a game in which characters may find, raise, and train a pet. Pets can gain skills or be allocated attributes and may serve as an ally during battles or quests.

**(U) PK:** An abbreviation for “player killing.”

**(U) PKer**

- (U) A player killer, a derogatory term.

**(U) player-versus-environment (PvE)**

- (U) In an MMORPG, a game combat against all hostile non-player characters in the world.
- (U) A play where the challenge is provided by the game itself, and not by other players.

**(U) player-versus-player (PvP)**

- (U) In an MMORPG, a game combat against other players in the world. Here a level 60 player could attack and kill a level 10 player. On non-PvP servers, this type of activity would be prevented in the game code.
- (U) A competition between players within a videogame.

**(U) PlaySpan Marketplace**

- (U) A sanctioned marketplace for users to purchase guaranteed publishers virtual goods, including 17 types of game currency, services, and online game subscriptions. Users may also purchase or earn Ultimate Points, a stored value micro-payment system which can be used instead of real money to buy goods and services. The PlaySpan Marketplace requires PayPal™ or PayByCash for purchases.

**(U) PlayStation® (PS™, PS1™, PS2™, PS3™, PS4™)**

- (U) Sony's video game console series. PlayStation® 4 is due to launch in November 2013. The current PlayStation® 3 was launched in 2006 and includes the Blu-ray disk technology and Internet access.

**(U) PlayStation® Network (PSN)**

- (U) Sony's online game service. As of March 2011, the PSN had about 77 million registered users, about 70 percent of them connect to it every week. The PSN consists of approximately 130 servers and 50 software programs. PSN supports free community-centric online gameplay and communication tools such as PlayStation®Home, and offers downloadable digital content through the PlayStation®Store, including games and movies. In May 2011, about 12.3 million global account holders had credit card information on file on the PSN.

**(U) PlayStation® Portable (PSP®)**

- (U) Sony's handheld game console first released in Japan in 2004. It is more notable for the use of the UMD miniature disk technology. It also supports WiFi networking.

**(U) poker bot:** See *bot*.

**(U) power gamer:** See *utility maximizer*.

**(U) power leveling**

- (U) In an MMOG, a commercial service whereby a third party takes a player's low-level (weak, poorly skilled) game character and builds it up to high levels of health, strength, and skill.

**(U) primary real-money trading**

- (U) Officially sanctioned by the company providing the virtual game currency. Second Life and Entropia Universe allow primary real-money trading.

**(U) pull**

- (U) A standard hunting strategy where a player lures a single or a group of mobs to other group so that the other group can hunt from a safe area instead of hunting in areas where new mobs spawn.

Q
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**(U) quest**

- (U) In an MMOG, tasks or missions that players must complete. These are typically assigned by non-player characters.

**(U) R4 Data Cartridge**

- (U) An unauthorized product that allows standard SD flash memory storage to be used instead of official Nintendo game cartridges for the Nintendo DS handheld game console. SD cards are routinely used for digital cameras and media players. The R4 product also includes a PC application that allows users to download pirated Nintendo games and use them. The R4 allows multiple games to be stored on a single cartridge and provides its own graphical user interface to select games.

**(U) race**

- (U) In an MMORPG, avatar-generating options such as elf, troll, and orc. An avatar's race determines its overall look and possibly its faction. Different races have different back stories.

**(U) raid**

- (U) In an MMORPG, a substantial engagement involving difficult mobs and requiring large organized groups of players (10-25). Generally, a game's most powerful virtual items and artifacts can be found in raids.

**(U) rares:**

- (U) In an MMOG, discontinued artwork and craft objects that can be used to decorate a character's home. They offer no real advantage in terms of power over the game world.

**(U) realm**

- (U) In an MMOG, a separate computer or Internet server maintaining one instance of the world. This is also called a shard. Generally, players can interact only with players who are on the same realm, and each character is restricted to a single realm.

**(U) real-money trading**

- (U) The practice of exchanging virtual game currency or virtual items for real money or vice versa. This is possible because players assign real-world value to virtual items, either because the virtual item is something they do not possess, the skills to make themselves, such as mansion in Second Life, or is used as part of the in-game economy and helps a player advance in the game, such as a powerful weapon in World of Warcraft. Some virtual worlds officially sanction real-money trading by providing the means to transfer the virtual game currency into real money. Some virtual world providers, however, include specific language in their Terms of Service/End User License Agreements to prohibit real-money trading.

**(U) real-time strategy (RTS)**

- (U) A type of game where moves must be made in real time, as opposed to turn-based games, where players have time to plan their turns before opponents have a chance to move. In traditional games, players gather resources, build up "armies," and work to destroy opponents. The player, as the commander, observes a top-down perspective while gathering information, anticipating moves, outflanking attacks, and formulating their strategy.

**(U) reflex augmentation**

- (U) In games, a type of cheating where a computer program replaces human reaction to produce superior results. See also, *aimbot*.

**(U) regen**

- (U) An abbreviation for "regeneration" of health, mana, or other replenishable attributes.

**(U) respec**

- (U) Recreating one's character from level one until the present level in terms of skills, powers, abilities, etc. At certain high levels in some games, players are given the opportunity to respect their characters.

**(U) reward structure**

- (U) The rules of a game that determine when players earn a reward and how they progress, which is also an intrinsic reward, and the structure of the game.

**(U) rez:** An abbreviation for “resurrection.”

**(U) role-playing game**

- (U) In an MMORPG, games that offer players the ability to choose their character (avatar) from different races and classes that correspondingly determine the characteristics, skills, and abilities their character will possess. Additionally, role-playing describes the extent to which a gamer commits to play, acting the role of their character within the fantasy world. Some players prefer to remain “in-character” at all times and therefore play on designated role-playing servers or realms.
  - (U) Typically involves several progressions: character progression, where the player acquires skills and belongings; plot progression, where the player is involved in various scenes and thereby progresses throughout the storyline of the game; and finally player progression, where the player becomes more adept at playing the game.
  - (U) A genre in which the player directs a group of heroes on a series of quests, usually in a story-based environment.

**(U) roll**

- (U) In an MMORPG, a fair way to distribute loot or settle disputes. To “roll” an item, the player types “/random 100” prompting the server’s random number generator to pick a number between one and 100.

**(U) rubber-banding or warping**

- (U) An effect of the client-server relationship, when the client is forced into a default or “as is” mode while waiting for information from the network. When the information arrives, objects and people can be out of place. If so, they have to be yanked into place (rubber-banding) or they simply disappear and pop up again instantly somewhere else (warping).
  - (U) Rules in virtual worlds:
    - (U) Technical Rules: Establish factual limitations. Violations of technical rules are impossible.
    - (U) Legal Rules: They can be violated with risk of sanction. Legal rules are enforced by an authority.
    - (U) Energy rules: Prohibit certain kinds of behavior which, if violated, result in “energy points” decreasing.

**(U) RvR**

- (U) An abbreviation for “realm-verses-realm.”

**(U) secondary real-money trading**

- (U) Predominantly associated with gold farming, which is against a game’s Terms of Service/End User License Agreement and therefore takes place on an “underground” market. Many game companies will ban accounts they identify as being associated with secondary real-money trading or gold farming.

**(U) serious games**

- (U) Video games used for a training or educational purpose. In general, any game created for a purpose other than entertainment can be considered a serious game.

**(U) shard:** See *realm*.

- (U) In an MMOG, one of the many different locals in which the world may be experienced. Each shard is physically like all the others: each one has the same world in it and all the same physical rules. Shards differ, however, in two ways: the group of people who have avatars there, and in the rules.

**(U) shared virtual reality**

- (U) Allows multiple people to participate in an online virtual world over the Internet. Most highly immersive virtual worlds and online games are set up on a client-server architecture. See also, *realm*.

**(U) simulator (sim)**

- (U) In Second life, each simulator process simulates one 256 by 256 meter region. As a resident moves through the world, he or she is handed off from one simulator to another. It is common for an organization entering Second Life to purchase one or more sims.

**(U) software mod**

- (U) A term for a modification of game software that a user can overlay on the game from his own computer. Mods are easy to use: a user downloads a file to his computer, clicks the icon, and the mod is automatically installed onto the game. The mod works by taking the information that the game sends to the screen and altering it.

**(U) solo**

- (U) The act of playing or hunting mobs alone.

**(U) Sony Computer Entertainment America, Inc. (SCEA)**

- (U) The maker of the PlayStation®Portable (PSP®) handheld entertainment system and the PlayStation®3 (PS3™) computer entertainment system with its online and network services the PlayStation®Network and PlayStation®Store. SCEA markets the products of PlayStation family and develops, publishes, markets, and distributes software for the PS1, PS2, PSP, and PS3 for the North American Market. Based in Foster City, CA, SCEA serves as headquarters for all North American operations and is a wholly owned subsidiary of Sony Computer Entertainment, Inc.

**(U) Sony Computer Entertainment, Inc. (SCEI)**

- (U) SCEI manufactures, distributes, and markets PSP handheld entertainment system and the PS3 computer entertainment system. SCEI, along with its subsidiary divisions Sony Computer Entertainment America, Inc., Sony Computer Entertainment Europe, Ltd., and Sony Computer Entertainment Korea, Inc. develops, publishes, markets, and distributes software; and manages the third party licensing programs for these platforms in the respective markets worldwide. Headquartered in Tokyo, Japan, SCEI is an independent business unit of the Sony Group.

**(U) Sony Corporation**

- (U) A manufacturer of audio, video, game, communications, key devices, and information technology products for the consumer and professional markets. Sony reported consolidated annual sales of approximately \$78 billion for the fiscal year ending on 31 March 2010.

**(U) Sony Online Entertainment, LLC (SOE)**

- (U) SOE creates, develops, and provides entertainment for the personal computer, online, game console, and wireless markets. SOE is well known for its franchises and hit titles including EverQuest®, Star Wars Galaxies, and Free Realms. It is headquartered in San Diego, CA, with additional development studios in Austin, TX; Seattle, WA; Denver, CO; and Tucson, AZ.

**(U) soulbound**

- (U) In an MMORPG, an item-control mechanic where only one person can own the object and it cannot be traded. See also, *BoE* and *BoP*.

**(U) spawn**

- (U) In an MMORPG, avatars or *monsters (mobs)* appear or raw resources are renewed. Avatars re-spawn after they are killed and mobs typically spawn on a given schedule.

**(U) spawn camping**

- (U) In an MMORPG, lurking in wait to continually capture a resource or kill a mob. Mobs and resources automatically replenish or appear (spawn) on a given schedule.

**(U) standbying**

- (U) A method of cheating in networked computer games where communications are interrupted to disrupt the synchronization of game state or actions between players.

**(U) Station Exchange**

- (U) Sony Online Entertainment's official, sanctioned marketplace for trading, buying, and selling virtual items for real money within the MMORPGs *EverQuest II* (in *Vox* and *The Bazaar* servers) and *Vanguard: Saga of Heroes*. Introduced in June 2005, Station Exchange is now operated by Live Gamer. U.S. \$1.87 million passed through the Station Exchange during its first year of operation.

**(U) subletting**

- (U) Sharing an online game account with another user who is engaged in an activity such as gold farming. Subletting is often a fraudulent way to steal a player's account, as well as a violation of the games' terms of service.

**(U) SWG:** An abbreviation for the game "Star Wars Galaxies."



**(U) tank**

- (U) Types of character *classes* that can withstand high damage.
- (U) The act of drawing agro from monsters (mobs) before other team members strike with their abilities.

**(U) Terms of Service (ToS)**

- (U) The extension of a game's contract that defines acceptable and unacceptable behaviors.

**(U) time management**

- (U) A genre of casual game involving making quick decisions about which situations to attend to out of a collection of possible options, each of which increases urgency if remains unattended.

**(U) twinkling**

- (U) A high level gamer helps a low level character with money to buy better equipment or helps the low level gamer kill creatures above his or her skill level.

## U

**(U) UO:** An abbreviation for the game “Ultima Online.”

**(U) utility maximizer (power gamer)**

- (U) In MMOGs, a type of player that seeks the most efficient way to accumulate the most wealth in the least amount of time with the least amount of effort. This means finding the quickest way through obstacles between them an economic rewards, or if possible, a legitimate way to avoid those obstacles entirely. The sequence of actions that maximizers uncover, which they evaluate with algorithmic precision for their superior risk/reward ratios, quickly becomes dominant routine within the culture of the game.

## V

**(U) virtual game currency**

- (U) Provided by online companies to be used in circulation as a medium of exchange within a game, social network, or virtual world. Companies generally caution that buying, selling, or receiving virtual game currency indicates the transfer of a limited license right rather than ownership.

**(U) virtual item**

- (U) Visual representations, such as armor, clothes, hair, weapons, potions, skills, etc., used online within a game, social network, or virtual world. Items are acquired through hunting or crafting. The value of a virtual item is decided based on rarity, utility, and resulting demand. The possession of a particular item can decisively determine the outcome of quests, dungeons, PvE and PvP battles.

## W

**(U) wall hack**

- (U) In a game, a hardware level/API hack. The video card computes when a character’s vision is blocked by a wall. Wall hacks modify the client infrastructure, such as the graphics card, to make a wall transparent so that the player can see through it, locating other players who are supposed to be hidden.

**(U) Warden, The**

- (U) In World of Warcraft, a program embedded in the client software, The Warden reads data on the user’s personal computer, monitors World of Warcraft process space, and keeps track of dynamic link libraries. It reads the window text in the title bar of every window and scans the code loaded for every process running on your computer, comparing it to known cheat code.

**(U) WB:** An abbreviation for “welcome back.”

**(U) wipe**

- (U) All of an entire group in a party or in a raid die.

**(U) WoW:** An abbreviation for the game “World of Warcraft.”

**(U) WTB:** An abbreviation for “want to buy.”

**(U) WTS:** An abbreviation for “want to sell.”

**X****(U) Xbox 360™**

- (U) Microsoft's game console that was released in 2005 as a successor to the Xbox. It includes Internet access. One notable change from the Xbox is that there is a version that does not include a hard drive (Xbox Arcade). As of March 2011, Microsoft had sold 51 million Xbox 360s.

**(U) Xbox LIVE®**

- (U) Microsoft's online gaming and digital delivery service. As of January 2011, Xbox LIVE had 30 million registered users, about one half of them were paying subscribers. Xbox LIVE supports multiplayer online gameplay and offers downloadable content through the Xbox LIVE Marketplace.

**(U) Xbox LIVE® Marketplace**

- (U) Xbox LIVE Marketplace allows users to search, browse, and purchase games, videos, and avatar accessories using Microsoft Points.

**(U) XPs (experience points)**

- (U) In games, XPs are earned for accomplishments such as killing a monster or completing a quest.

**Z****(U) zerg**

- (U) A combat strategy where a large group of players rush in at the target. This is seen as a simple-minded strategy that requires no skill.

**(U) zone**

- (U) In games, different areas of the world are parceled out for loading reasons and the different areas are referred to as zones.

## ~~(U//FOUO)~~ ONLINE COMMUNICATION ABBREVIATIONS

**(U) AFK (afk):** An abbreviation for “away from keyboard.”

**(U) alt:** An abbreviation for “alternate.”

**(U) BRB (brb):** An abbreviation for “be right back.”

**(U) BRT (brt):** An abbreviation for “be right there.”

**(U) IMHO:** An abbreviation for “in my humble opinion.”

**(U) IRL:** An abbreviation for “in real life.”

**(U) NP:** An abbreviation for “no problem.”

**(U) OMW:** An abbreviation for “on my way.”

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(U) If you have any questions or comments regarding this Cyber Lexicon, or if you would like to submit an update, please contact the Cyber Intelligence Section (CybIS) at

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