



# CTC(T&IT), CRPF



Monthly

# e-Newsletter

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*Always do your best. What you plant now, you will harvest later*

“Success isn’t always about greatness.  
It’s about consistency.  
Consistent hard work gains success.  
Greatness will come.”

– Dwayne “The Rock” Johnson

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## READER’S CENTER

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## BGAN

BGAN (pronounced "Be-gan") is short for "Broadband Global Area Network". Basically, BGAN terminals are the size of a laptop and connect to the Internet through a satellite connection no matter where you are located on the globe.

There are about [18 kinds of BGAN terminals](#), most of which are small enough to fit inside a laptop case. They all do pretty much the same thing, which is high-speed Internet and phone. Connecting your computer to a BGAN terminal is done with a simple Ethernet cable, or with some terminals, through a Wi-Fi connection, which is nice when you want to be inside while the terminal is outside, or you have a smart device where Wi-Fi is required.



To connect to the satellite, a BGAN terminal must have line-of-sight to one of the 3 BGAN satellites, meaning there can't be any trees, walls, or building between the terminal and the satellite. Often, a BGAN terminal is placed outside, but it can be inside and point through a window if the satellite can be seen.

These three satellites (owned by [Inmarsat](#)) are in stationary orbit around the planet so that no matter where the BGAN is, it may connect. Only the extreme polar regions are unable to connect because the satellites are below the horizon, and can't be seen.

Services available through a BGAN terminal are [High-Speed Internet](#), [Phone](#), [Fax](#), [ISDN](#), [SMS Messaging](#), and [Streaming Services](#) (used by news broadcasters).

### PROS of BGAN

- > BGAN terminals provide broadband Internet and phone from most any location [globally](#).
- > BGAN terminals work in locations where there is no wireless (cellular) Internet service.
- > BGAN terminals are very portable, and will easily fit in a laptop case.
- > BGAN terminals can provide Wi-Fi for any in range device, such as smartphones.
- > BGAN terminals work on land or sea on the same service plan.

### CONS of BGAN

- > [BGAN Service](#) is expensive. It costs about \$4 to \$6 per Megabyte transferred.
- > [BGAN Terminals](#) are expensive and cost anywhere from \$1,600 to \$10,000 or more.
- > BGAN terminals need to be manually pointed, although pointing is easy once learned.

## DOGECOIN



Dogecoin ( code: DOGE, symbol: Ð) is a cryptocurrency invented by software engineers Billy Markus and Jackson Palmer, who decided to create a payment system that is instant, fun, and free from traditional banking fees. Dogecoin features the face of the ShibaInu dog from the "Doge" meme as its logo and namesake. It was introduced on December 6, 2013, and quickly developed its own online community reaching a market capitalization of US \$5,382,875,000 on January 28, 2021

History:- Originally created as a joke, Dogecoin was co-founded by IBM software engineer Billy Markus from Portland, Oregon and Adobe software engineer Jackson Palmer, who set out to create a peer-to-peer digital currency that could reach a broader demographic than Bitcoin. In addition, they wanted to distance it from the controversial history of other coins. Dogecoin was officially launched on December 6, 2013, and within the first 30 days there were over a million visitors to Dogecoin.com.

At the time, Palmer was a member of the Adobe Systems Marketing Department in Sydney and is credited with making the idea a reality. Palmer had purchased the domain Dogecoin.com and added a splash screen, which featured the coin's logo and scattered Comic Sans text. Markus reached out to Palmer after seeing the site, and started efforts to develop the currency. Markus had designed Dogecoin's protocol based on existing crypto currencies, Luckycoin and Litecoin, which use script technology in their proof-of-work algorithm. The use of script means that miners cannot use SHA-256 bitcoin mining equipment, and instead must use dedicated FPGA and ASIC devices for mining which are known to be more complex to produce.

On December 19, 2013, Dogecoin jumped nearly 300 percent in value in 72 hours, rising from US\$0.00026 to \$0.00095, with a volume of billions of Dogecoins per day. This growth occurred during a time when Bitcoin and many other cryptocurrencies were reeling from China's decision to forbid Chinese banks from investing into the Bitcoin economy. Three days later, Dogecoin experienced its first major crash by dropping by 80% due to this event and to large mining pools exploiting the small amount of computing power required at the time to mine Dogecoin.

On December 25, 2013, the first major theft of Dogecoin occurred when millions of coins were stolen during a hack on the online cryptocurrency wallet platform Dogewallet. The hacker gained access to the platform's filesystem and modified its send/receive page to send any and all coins to a static address. This hacking incident spiked tweets about Dogecoin, making it the most mentioned altcoin on Twitter at the time, although it was in reference to a negative event. To help those who lost funds on Dogewallet after its breach, the Dogecoincommunity started an initiative named

"SaveDogemas" to help donate coins to those who had them stolen. Approximately one month later, enough money was donated to cover all of the coins that were stolen.

In January 2014, the trading volume of Dogecoin briefly surpassed that of Bitcoin and all other crypto-currencies combined, however, its market capitalization remained substantially behind that of Bitcoin. Initially, Dogecoin featured a randomized reward that is received for each mining block, however, in March 2014 this behaviour was later updated to a static block reward.

In April 2015, Jackson Palmer announced he is taking an "extended leave of absence" from the cryptocurrency community. During 2017 to early 2018 Cryptocurrency bubble, Dogecoin briefly reached a peak of \$0.017/coin on January 7, 2018, putting its total market capitalization near USD 2 billion. In July 2020, the price of Dogecoin spiked following a TikTok trend aiming to get the coin's price to \$1. In January 2021, Dogecoin went up over 800% in 24 hours as a result of attention from Reddit users, partially encouraged by Elon Musk and the GameStop short squeeze. In February 2021, Dogecoin hit its all-time high price following Twitter encouragement from Elon Musk, Snoop Dogg and Gene Simmons.

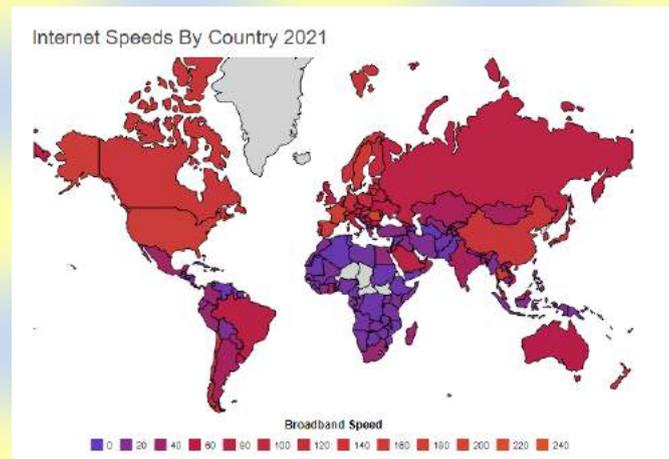
Use and exchanges:-Several online exchanges offer DOGE/BTC and DOGE/LTC trading. Dogecoin is an altcoin with many users. Mainstream commercial applications of the currency have gained traction on internet, such as a tipping system, in which social media users tip others for providing interesting or noteworthy content. Trading physical, tangible items in exchange for DOGE takes place on online communities such as Reddit and Twitter, where users frequently share currency-related information. Dogecoin has also been used to try to sell a house, and has been used in the pornography and poker industries. Dogetipbot was a cryptocurrency transaction service used on popular sites like Reddit and Twitch. It allowed users to send Dogecoins to other users through commands via Reddit comments. In May 2017 Dogetipbot was discontinued and taken offline after its creator declared bankruptcy; this left many Dogetipbot users losing their coins stored in the Dogetipbot system.

Currency supply:-Dogecoin started its initial coin production schedule with 100 billion coins in circulation. By mid-2015 the 100 billionth Dogecoin had been mined with an additional 5 billion coins put into circulation every year thereafter. There is currently no implemented hard cap on the total supply of Dogecoins. Initially, Dogecoin had a supply limit of 100 billion coins, which would already have been far more coins than the top digital currencies were allowing. Nonetheless, in February 2014, Dogecoin founder Jackson Palmer announced that the limit would be removed in an effort to create a consistent reduction of its inflation-rate over time.

## Internet Speeds By Country 2021

In today's modern world, we use the internet more than ever. Young people use the internet to research school, chat with friends, or watch funny videos. As adults, we can do the same and so much more – paying bills, working remotely, or even meeting new friends and love interests.

The internet of today is faster than ever, thanks to new technologies. This faster internet allows us to watch TV shows and movies on our phones, download large files, collaborate with teammates, or pull up multiple tabs to multitask. In developed nations, gone are the days where we have to hear the screech of a dial-up modem, get booted every time a family member picks up the phone, or deal with downloads that take hours – or days.



If you've invested in the fastest internet in your neighborhood, you may be surprised to learn that other nations around the world have even faster speeds. Even if you're paying a premium price for a top-tier service, some of the fastest internet speeds in the world may not even be available in your country.

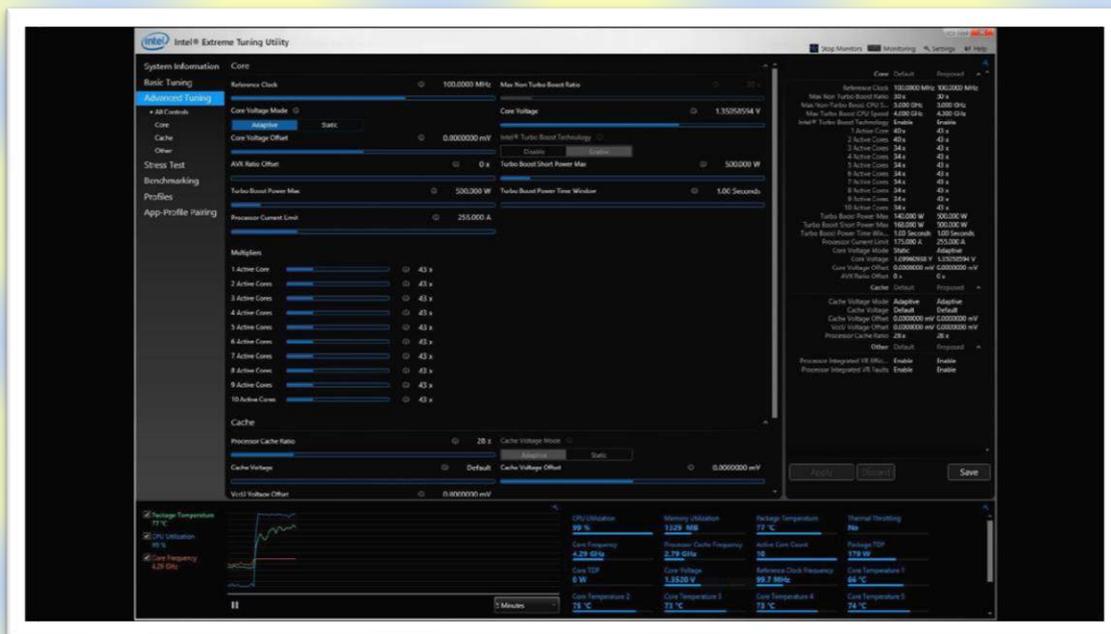
According to Ookla, a company specializing in internet speed testing, reported that the global average download speed on fixed broadband is 85.73 Mbps as of September 2020. The average mobile download speed is 35.96. As technology becomes more advanced and networks are improved, these numbers are expected to continue to grow.

Based on data from Ookla, Singapore is the nation with the fastest broadband download speeds of 226.60 Mbps. Hong Kong follows this with 210.73 Mbps and Romania with 193.47 Mbps. The United States has the 10th-fastest internet download speeds of 161.14 Mbps.

The countries with the fastest mobile internet speeds are different. The fastest mobile download speeds can be found in South Korea at 121.00 Mbps. China follows with 113.35 Mbps and the United Arab Emirates with 109.43 Mbps.

## OVERCLOCKING OF COMPUTERS

When “fast is not enough” gamers, hobbyists find and devise new ways of intriguing ways of taking their hardware to max. Overclocking has become common with all of newest hard ware devices having the ability to reach overlocked speed of over 50%.The purpose of overclocking is to increase the operating speed of a given component. Normally, on modern systems, the target of overclocking is increasing the performance of a major chip or subsystem, such as the main processor or graphics controller, but other components, such as system memory (RAM) or system buses (generally on the motherboard), are commonly involved. The trade-offs are an increase in power consumption (heat) and fan noise (cooling) for the targeted components. Most components are designed with a margin of safety to deal with operating conditions outside of a manufacturer's control; examples are ambient temperature and fluctuations in operating voltage. Overclocking techniques in general aim to trade this safety margin by setting the device to run in the higher end of the margin, with the understanding that temperature and voltage must be more strictly monitored and controlled by the user. Examples are that operating temperature would need to be more strictly controlled with increased cooling, as the part will be less tolerant of increased temperatures at the higher speeds. Also base operating voltage may be increased to compensate for unexpected voltage drops and to strengthen signalling and timing signals, as low-voltage excursions are more likely to cause malfunctions at higher operating speeds.



What is overlocking:- ? □ This is the process of running the device faster than it is specified to do. With a successful overclock, the system will run stable and exactly the same as it did at the default factory set frequency, just faster. Overclocking generally refers to running your CPU, and these days your video card too, at higher internal CPU clock and bus speeds than the manufacturer's specs for achieving better system performance at little or no cost. The clock speed of a processor is the main factor that determines the computing power of a computer, measured in MHz or GHz. To better understand the concept, imagine your car drives at fixed speed of 1 to 60 mph, although the optimal speed is 50, nothing prevents it from going faster or slower. You want to run at higher speeds only at favorable conditions

# Visual Positioning System (VPS)

The process of identifying the position and orientation of a device relative to some reference point is referred to as localization. Various techniques approach localization in different ways relies on measuring the delay of radio signals from multiple dedicated satellites to determine a precise location. However, in dense urban environments it can be incredibly hard to pinpoint a geographic locations due to low visibility to the sky and signals reflecting off of buildings. This can results in highly inaccurate placements on the map meaning the your location could appear on the wrong side of the street or even a few blocks away. GPS has another technical shortcoming it can only determine the location of the device not the orientation

What is VPS?

Visual Positioning System (VPS) is the newly developed feature for the Google Maps. VPS will use the camera of the user's smartphone to identify their surroundings, and thereby visually display a blown-up 3D direction such as lit-up arrows and precise steps, in the screen of the smart phones.

What makes Visual Navigation a Game changer?

At times, when the standard GPS technology is not enough, this new visual system can offer the users ample support to fix their navigation concerns.

VPS can be a great aid to the visually-impaired; the close-up visual assistance can be a life changing assistance to the visually-impaired to make their navigation a lot easy.

The system not just helps with routing directions but makes the best use of Augmented Reality so as to retrieve supplementary information by taking clues of nearby signboards and shops.

The technology can really come handy in Urban Areas with Tall Buildings where, the GPS is prone to the phenomena of GPS drift.

The Future with the VPS:

VPS is poised to supplement existing location data models to further the advances in navigation, marketing, and even robotics in the future.

VPS is capable of determining indoor and outdoor location through ad-hoc visual markers.

Distinguishing features such as signage, buildings, and walls are identified by scanning geo located photos, enabling Unprecedented Accuracy in location data.

Augmented Robotics- Autonomous robots, from drones to dogs to cars, could access VPS services and improve their navigation ability. VPS data could eventually eliminate the need for Expensive Sensors in robotics.

Augmented Marketing- The system can capitalize the immersive potential of AR to create compelling marketing content in the digital platforms.

HC/RO Paramjeet Singh

## Quiz

1. Computer forensics also known as?
  - A. digital forensic science
  - B. computer crime
  - C. computer forensic science
  - D. computer forensics investigations
  
2. Which method uses stochastic properties of the computer system to investigate activities lacking digital artifacts?
  - A. Steganography
  - B. Stochastic forensics
  - C. Both A and B
  - D. None of the above
  
1. computer forensics also be used in civil proceedings.
  - A. Yes
  - B. No
  - C. Can be yes or no
  - D. Can not say
  
4. Which of the following techniques are used during computer forensics investigations?
  - A. Cross-drive analysis
  - B. Live analysis
  - C. Deleted files
  - D. All of the above
  
5. CCFP stands for?
  - A. Cyber Certified Forensics Professional
  - B. Certified Cyber Forensics Professional
  - C. Certified Cyber Forensics Program
  - D. Certified Cyber Forensics Product

6. How many c's in computer forensics?
- A. 1
  - B. 2
  - C. 3
  - D. 4
7. You are suppose to maintain three types of records. Which answer is not a record?
- A. Chain of custody
  - B. Documentation of the crime scene
  - C. Searching the crime scene
  - D. Document your actions
8. Physical Forensics Discipline include which of the following?
- A. Bloodstain
  - B. Eating
  - C. Searching
  - D. Watching
9. Volatile data resides in ?
- A. registries
  - B. cache
  - C. RAM
  - D. All of the above
10. Deleted files is a common technique used in computer forensics is the recovery of deleted files.
- A. TRUE
  - B. FALSE
  - C. Can be true or false
  - D. Can not say

# Technical Terms

**Brute force attack:** When an attacker inputs many passwords in the hope that it is eventually guessed correctly.

**Botnet:** A collection of private computers that are infected with malicious software that are being controlled without the owner's knowledge.

**Cryptojacking:** A hacking attack that makes the device mine cryptocurrency, in addition to its normal use.

**Data protection:** Also known as data privacy and information privacy, the process of safeguarding information so it doesn't fall into the wrong hands.

**Insider threat:** A malicious threat to a group or organization that comes from someone within, like an employee, contractor, or business associate, who has insider information regarding the organization's data, computer systems, or security measures.

**Mitigation defense:** Software that doesn't stop hacking from happening, but will mitigate the effects.

**ReCAPTCHA:** A service from Google that works to protect websites from spam and abuse caused by robots. A user is presented with a Turing test to distinguish them from a robot.

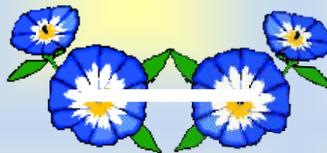
**Social engineering:** The act of taking advantage of human trust to gain access to private information. This can be done as easily as calling a number and asking for it.

**Spoofing:** An attack in which a person, or program, disguises themselves as another by falsifying data to gain an advantage or the trust of someone else.

**Zero-day exploit:** A previously unknown, bug, flaw, or backdoor in software. An attack happens once this flaw is exploited and attackers release malware before the flaw can be patched.

## Acknowledgement

We are highly thankful for reading out this compilation and hope it will be useful for you in our day to day professional and personal life. We would like to hear your interest areas, suggestions from you to make this newsletter more informative and interesting. Your views will definitely help us to create this newsletter as an effective medium to reach you with latest development in the fields of communication and technology.



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### Answers To Quiz

1	2	3	4	5	6	7	8	9	10
C	B	A	D	B	C	C	A	D	A

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