CTC(T&IT),CRPF

e-Newsletter

JAN, 2021

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“Cybercrime is the greatest threat to every company in the world."

Cryptocurrency

What Is a Cryptocurrency?

A cryptocurrency is a digital or virtual currency that is secured by cryptography, which makes it nearly impossible to counterfeit or double-spend. Many cryptocurrencies are decentralized networks based on blockchain technology a distributed ledger enforced by a disparate network of computers. A defining feature of cryptocurrencies is that they are generally not issued by any central authority, rendering them theoretically immune to government interference or manipulation.

Understanding Cryptocurrencies

Cryptocurrencies are systems that allow for the secure payments online which are denominated in terms of virtual "tokens," which are represented by ledger entries internal to the system. "Crypto" refers to the various encryption algorithms and cryptographic techniques that safeguard these entries, such as elliptical curve encryption, public-private key pairs, and hashing functions.

Types of Cryptocurrency

The first blockchain-based cryptocurrency was Bitcoin, which still remains the most popular and most valuable. Today, there are thousands of alternate cryptocurrencies with various functions and specifications. Some of these are clones or forks of Bitcoin, while others are new currencies that were built from scratch.

Bitcoin was launched in 2009 by an individual or group known by the pseudonym "Satoshi Nakamoto." As of Nov. 2019, there were over 18 million bitcoins in circulation with a total market value of around $146 billion.

Some of the competing cryptocurrencies spawned by Bitcoin's success, known as "altcoins," include Litecoin, Peercoin, and Name coin, as well as Ethereum, Cardano, and EOS. Today, the aggregate value of all the cryptocurrencies in existence is around

$214 billion Bitcoin currently represents more than 68% of the total value.

Advantages and Disadvantages of Cryptocurrency

Advantages : -

Cryptocurrencies hold the promise of making it easier to transfer funds directly between two parties, without the need for a trusted third party like a bank or credit card company. These transfers are instead secured by the use of public keys and private keys and different forms of incentive systems, like Proof of Work or Proof of Stake.

In modern cryptocurrency systems, a user's "wallet," or account address, has a public key, while the private key is known only to the owner and is used to sign transactions. Fund transfers are completed with minimal processing fees, allowing users to avoid the steep fees charged by banks and financial institutions for wire transfers.

Disadvantages : -

The semi-anonymous nature of cryptocurrency transactions makes them well-suited for a host of illegal activities, such as money laundering and tax evasion. However, cryptocurrency advocates often highly value their anonymity, citing benefits of privacy like protection for whistleblowers or activists living under repressive governments. Some cryptocurrencies are more private than others.

Bitcoin, for instance, is a relatively poor choice for conducting illegal business online, since the forensic analysis of the Bitcoin blockchain has helped authorities to arrest and prosecute criminals. More privacy-oriented coins do exist, however, such as Dash, Monero, or ZCash, which are far more difficult to trace.

KEY TAKEAWAYS

- A cryptocurrency is a new form of digital asset based on a network that is distributed across a large number of computers. This decentralized structure allows them to exist outside the control of governments and central authorities.
- The word “cryptocurrency” is derived from the encryption techniques which are used to secure the network.
- Blockchains, which are organizational methods for ensuring the integrity of transactional data, is an essential component of many cryptocurrencies.
- Many experts believe that blockchain and related technology will disrupt many industries, including finance and law.
- Cryptocurrencies face criticism for a number of reasons, including their use for illegal activities, exchange rate volatility, and vulnerabilities of the infrastructure underlying them. However, they also have been praised for their portability, divisibility, inflation resistance, and transparency.

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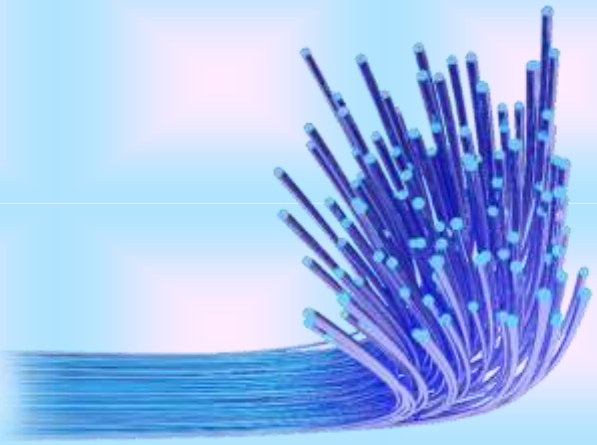
Dark Fiber

Dark fiber which is also known as unlit fiber or black fiber - is an unused optical fiber that has been laid. It is usually used in Telecom and Network Communications, and there are thousands of miles of unused dark fiber cables across the US. While it is currently unused, it's known to be "dark" as no light pulses are being transmitted through it. In normal fiber cables, light pulses send information, but it's essential that these cables are instead taken advantage.

All About Dark Fiber

Today the term dark fiber is used to discuss the ever-growing, popular procedure of leasing out fiber optic cables from a network provider/service provider, or, out to the Fiber installation/fiber infrastructure that isn't owned by regular carriers. Dark Fiber can still be called dark, even if it has been utilized by a fiber lessee and not by the owner of the cable.



When fiber optic cables are installed, many companies overestimate the total amount of supplies and cables needed in order to perform the job. The reason behind this overestimation is to ensure that the company can prevent their dark fiber network from gaining an overgrowth of data. Preventative measures and advances in data-packaging have allowed for a multitude of optical Fiber networks to have unused extraneous space. This extra space allows for the opportunity for dark fiber networks to become functional through expansion

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What Is Dark Fiber Used For & How?

There are several ways to set up a dark fiber network. Point-to-point or point-to-multipoint configurations are the most common ways to install and set up these networks. Dense Wavelength Division Multiplexing (DWDM), has been a huge factor in the development and improvement of Dark Fiber. DWDM occurs when many different data signals are transmitted at the same time, through the same optical fiber.

Data signals are transmitted at the same time, but in order to keep the data signals separate, they are all transmitted at unique and separate wavelengths. A dense wavelength is a good way to increase bandwidth and to allow additional data to be sent via **fiber optics**. Additionally, the single optical cable can then be turned into multiple virtual fibers. This kind of technology results in high-quality levels of internet performance, a powerful and **secure network**, and lightning-fast internet speeds.

Dark Fiber can be affordably bought and used by individuals. However, businesses and other organizations are more likely to get the most out of dark fiber bandwidth, since they have a higher demand for their internet. Black fiber also ensures that businesses will have almost complete control over their network infrastructure. Government institutions, schools, e-commerce, and retail companies

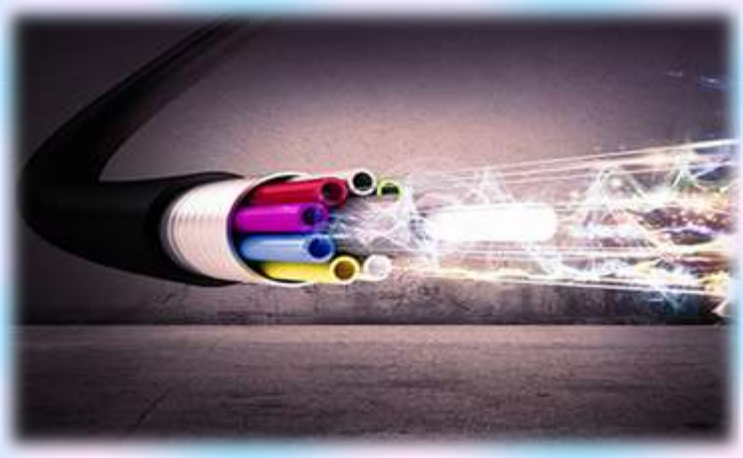
are some of the many who can benefit from dark fiber. These particular organizations require fast and secure internet capabilities due to the transmission of large files of sensitive data.

Dark fiber networks have a high capacity and enable excellent signal strength. Data is transported through the cables using light pulses, as mentioned earlier, and you can find it underground. Dark fiber networks are separate from the main networks and are controlled by a client rather than a network provider. Some interesting uses of dark fiber include the current earthquake research happening in California. They're also used to monitor the Arctic permafrost in Alaska. It's not just used for business purposes and can be installed under oceans as well as land.

How Dark Fiber Is Used In Network Architecture

Dark fiber is set up in several different ways. Two main configurations are popular, and those are point-to-point and multipoint configurations. Instead of Network Service Providers adding a new strand of fiber-optic to a network that already exists, they will usually install more than is necessary so that they can use the dark fiber in the future. When extra cabling is installed, a Network Service Provider enables a business to work more efficiently.

The Benefit of Dark Fiber



For businesses and companies, owning and operating their own fiber-optic network tends to be more economical. Organizations gain benefits such as network speed and autonomy over their network when Dark Fiber is utilized.

Often times businesses find their growth to be alarmingly quick, which can cause issues with their bandwidth being at capacity. This prevents businesses from running efficiently and effectively. Incorporating an already-established internet provider would take a while and end up costing more in the long-run. Once a company has dark fiber, a simple upgrade to the fiber-powering equipment will allow an instantaneous boost to network capacity and speed.

Starting up a dark fiber optic network takes a bit of money and elbow-grease. However, the annoyance of extra hidden fees and delays in service, all of which are common characteristics of internet providers will be gone. Running a dark fiber network independently requires purchasing, installing, and running your own transmission equipment, which allows for total control over a network's latency.

A low latency level is important for organizations who rely on dependable and speedy communication between different point-to-point portals, or between large data centers that need to be in communication with each other quickly and efficiently. Security is also an important factor. These networks are owned and operated only by the lessee, which means maintaining a high level of security; no outsiders can monitor or record data being transmitted.

At FieldEngineer.com, we can assist you with your dark fiber needs with our database of exceptional dark fiber specialists. Don't delay; if you need a fiber optic technician, we have over 40,000+ global specialists waiting to work on your project with you. Call us now and see how we can help.

Cons of Dark Fiber

While there are many advantages to running your own dark fiber optic network, there are also disadvantages that need to be acknowledged. The primary disadvantages are immediate, the loss of time and money that it takes to set up your own infrastructure.

Availability is an important issue because even though the United States has large networks of unused Fiber out there, not every town has dark fiber capabilities. Before investing time or money, contact a local dark Fiber provider or telecommunication company to find out if there is dark fiber available.
Regular maintenance and repairing when something goes wrong can be an inconvenience. Not all technicians will have a solid grasp on how to remedy every dark fiber situation they may encounter. If significant or major repairs become necessary, prices can become exorbitant. It is vital for the owner of the network to consistently monitor the condition of the network, so if any problems come up, they can be dealt with a timely manner.

The outlook for the future of dark Fiber is actually quite promising. More and more businesses, companies, and organizations are beginning to seek out the best and most reliable internet connection, which is what dark fiber provides. Providers of telecommunication services are also paying more attention to the world of dark fiber since they are constantly on the hunt for expandable bandwidth capabilities. All in all, dark Fiber seems to finally be garnering the attention it deserves. We can help you set up your dark fiber network today! Looking for a cost-effective and stress-free experience? We have fiber optic technicians to assist your business in your installation.

Are you a freelancer looking for an opportunity to work as a Fiber Optic Freelance Technician? Sign up at Field Engineer today! It is a platform that freely connects freelancers with businesses to complete jobs. At Field Engineer, we have a multitude of high-end technicians on board, resulting in an ease of finding a skilled and talented technician to address the needs of a business.

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FIT WEARABLE PHONE

Fit Wearable Phoneis the Hand-free Concept design by the Issamtrabelsi. This is made for the fit in your finger and then you can manage your Incoming calls, and unread text, urgent calls, and the Messages will be relayed thought vibration yes if you wear this in your finger and then you see the magic.This is a hand – Free Concepts Phone it's just comfortably Fit in your Finger and then You feel the Vibration In your finger when there is a call or when you Receive Notification

Features and How its work

Its work via Bluetooth but its also be fit comfortably fit in your hand that why its designing wearable to help you to Expose your ears to the Radiation and the reduces the use of the hand-phone devices, now we look at the what is features.

This tool is divided into three parts

1. The green button what the green buttons do?
   This is for when to receive an incoming call so this button is to accept the call when you switch this so you accept the incoming calls.

2. Notification parts this is an important part here you see your Missed calls and un reads messages with the help of the LED indicators also with the help of the Vibration mechanism is also Engage here.

3. Red button what you thing yes it's for the cancel the calls.

   This is waterproof, and its also work on the Nonslip features Ex- like you in the swimming pool but your device is work Because is water proof.

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Cyber Security Tips

1. How to Identify Fake Facebook Profile

You might have heard about several users complaining that they got duped by some other fake person on Facebook. Usually, the phony profile is created to promote some content, ideas or to fraud other persons. A genuine user will share his daily activity or thoughts on Facebook which could be random as we like different things. However, a fake profile usually shares about one thing that it is meant to promote. How do we trust a person on Facebook?

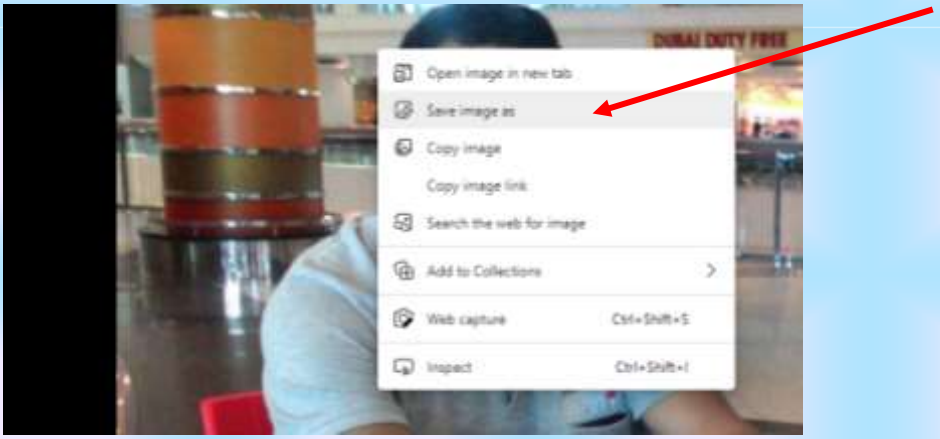
If you look carefully at the profile, you can tell whether the profile is fake or genuine. Below are some points that you can consider to identify a fake Facebook profile.

The first thing you see in a profile on Facebook is their profile picture. You can tell if a profile is genuine or fake by looking at it. Below are some concerns that you should check with the profile picture.

a. Single Profile Picture An active user on Facebook regularly changes his/her profile picture. If you see only one profile picture and the profile is new or 2-3 years old, it should raise a concern.
b. Profile Pictures of Celebrities Its okay if someone is a fan of a celebrity, but he will not put all profile pictures of that celebrity on his Facebook profile.
c. No Profile Picture The Facebook name is enough to compel someone to put a picture on the profile. If it is not there, it is alarming enough.
d. A Perfect Profile Picture Usually, people click pictures with the phone camera, and these pictures aren't perfect. If you are seeing a picture of a model with a perfect angle and lighting, then it might be a fake one.

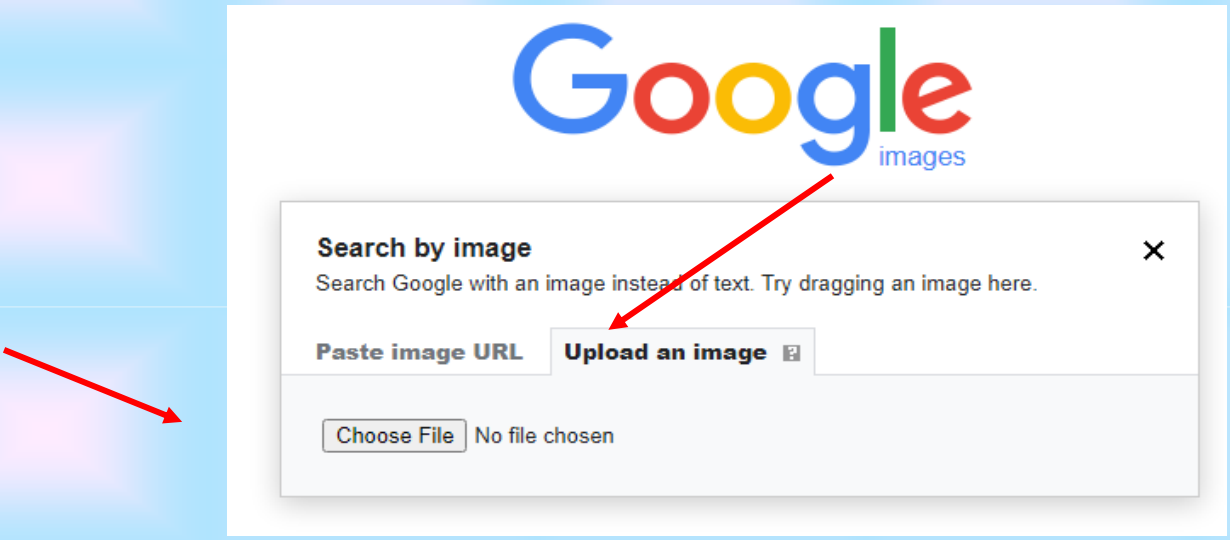
To ensure if a profile picture is genuine you can save it to your computer and then can use Google Image Search to verify. When you upload it to Google Image, it will fetch data if someone else belongs to that image.

To do that Right click on the profile picture and click **Save image as** and then save it to your computer,



Then open **Google Image search** and click on the **Camera icon**

Click on **Upload an image** and then click on **Choose file**, select the profile picture and upload it.



It will fetch data if someone else belongs to that image.

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Technical Quiz

1. Mobile security is also known as _____

a) OS Security

b) Wireless security

c) Cloud security

d) Database security

2. BBProxy tool is used in which mobile OS?

a) Android

b) Symbian

c) Raspberry

d) Blackberry

3. _____ is the anticipation of unauthorized access or break to computers or data by means of wireless networks.

a) Wireless access

b) Wireless security

c) Wired Security

d) Wired device apps

4. AP is abbreviated as _____

a) Access Point

b) Access Port

c) Access Position

d) Accessing Port

5. _____ needs some control for data flow on each and every logical port.

a) Antivirus

b) Network firewall

c) Intrusion Detection Systems (IDS)

d) Anti-malware

6. The _____ Domain Name Server data will get spread to the ISPs & will be cached there.

a) working

b) compromised

c) corrupted

d) poisoned

7. _____ is the kind of firewall is connected between the device and the network connecting to internet.

a) Hardware Firewall

b) Software Firewall

c) Stateful Inspection Firewall

d) Microsoft Firewall

8. Which of the following is the most viral section of the internet?

a) Chat Messenger

b) Social networking sites

c) Tutorial sites

d) Chat-rooms

9. _____ will not recreate the original source file created by the compiler.

a) Debugger

b) Hex Editor

c) Decompiler

d) Disassembler

10 The process of finding vulnerabilities and exploiting them using exploitable scripts or programs are known as _____

a) infiltrating

b) exploitation

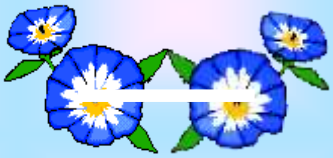
c) cracking

d) hacking

CSO	Chief Security Officer	In some cases, the Chief Security Officer is in charge of an organization's entire security posture or strategy. This includes both physical security and cybersecurity. In other cases, this title belongs to the senior most role in charge of cybersecurity.
CVSS	Common Vulnerability Scoring System	An industry standard for rating the severity of security vulnerabilities. CVSS attempts to assign severity scores to vulnerabilities, allowing responders to prioritize responses and resources according to threat.
DLP	Data Loss Prevention	An information security strategy to protect corporate data. DLP is a set of tools and processes used to ensure that sensitive data is not lost, misused, or accessed by unauthorized users, either inside or outside of an organization.
DNS attack	Domain Name Server	DNS uses the name of a website to redirect traffic to its owned IP address. Amazon.com should take you to Amazon's website, for example. During this type of attack, which is complex and appears in several ways, cybercriminals can redirect you to another site for their own purposes. This attack takes advantage of the communication back and forth between clients and servers.
EDR	Endpoint Detection & Response	Endpoint Detection & Response solutions are designed to detect and respond to endpoint anomalies. EDR solutions are not designed to replace IDPS solutions or firewalls but extend their functionality by providing in-depth endpoint visibility and analysis. EDR uses different datasets, which facilitates advanced correlations and detection.
FISMA	Federal Information Security Management Act	FISMA is United States legislation which requires each federal agency to develop, document, and implement an agency-wide program to provide information security for its information systems and data. The act recognized the importance of information security to the economic and national security interests of the United States.
GRC	Governance, Risk Management, and Compliance	Three parts of a strategy for managing an organization's overall governance, enterprise risk management and compliance with regulations. Cybersecurity people, practices and tools play a key part in GRC for many organizations.
IBE	Identity-Based Encryption	A type of public-key encryption in which the public key of a user is some unique information about the identity of the user, like a user's email address, for example.
IDS/IDP	Intrusion Detection/Intrusion Detection and Prevention	Intrusion Detection Systems (IDS) analyze network traffic for signatures that match known cyberattacks. Intrusion Prevention Systems (IPS) analyze packets as well, but can also stop the packet from being delivered based on what kind of attacks it detects, helping to stop the attack.

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 the Quiz

1	2	3	4	5	6	7	8	9	. 10
d	d	b	a	b	d	a	b	c	b