

en G@ge

November 2021

"Play by the rules, but be ferocious."

Phil Knight

FEATURING



Bouchra Galluccio

VP of DevOps and Quality Engineering,
Healthfirst

G@VS

www.gavstech.com



It's very easy to be different, but
very difficult to be better.

- Jonathan Ive -

Table of Contents

09

Introducing Bouchra Galluccio

Bouchra Galluccio, VP of DevOps and Quality Engineering, Healthfirst, talks about the challenges she has faced, how that has shaped her, her definition of success and more. – *“One thing that helped build my character was that I grew up in a large family, I’m the youngest of 10 siblings. As anyone with so many siblings would know, it was hard to get my voice heard.”*

12

Alternative Payment Models - Payment Transformation in Healthcare

Srinivasan Sundararajan throws light on alternative payment methods that is set to transform the healthcare industry. – *“Traditionally, healthcare providers are paid in a ‘Fee-for-Service’ (FFS) model. This is exactly what it sounds like: every time you visit a doctor ... you (and your insurance company) pay separately for whatever service you have received.”*

15

Easing into Hybrid Work with ZIF™

Rabiya Basri S M writes about how GAVS’ AIOps solution ZIF™ can help organizations enable a seamless experience for their hybrid work culture. – *“The discussion around the future of work has a lot of people supporting hybrid work. At least that’s what the survey results say.”*

17

Blockchain for Cybersecurity

Sundaramoorthy S makes the case for why implementing Blockchain can help strengthen an organization's cyber defenses. – *"The digital era is compressing the turnaround time of various activities, but it is tagged with additional cost."*

20

Passwordless Era is Here!

Aravindh S illustrates the various benefits of going passwordless. – *"Unfortunately, it is far too common for people to click on fake URLs and enter their credentials in seemingly genuine-looking websites."*

22

Computing and Sustainability

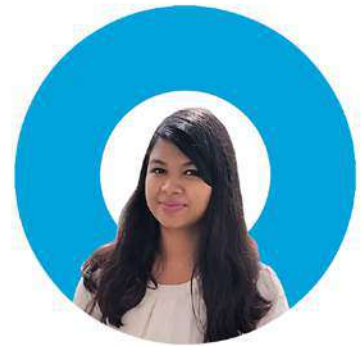
Rajalakshmi M raises some important questions about our increasing need for faster computing and its impact on our planet. – *"The recent energy shortages and a short-term ban on crypto mining by some nations clearly indicate that the increased need for data centers and computing power will have consequences for the environment."*

24

ERP - Empowering Businesses to Succeed

Naveen K T writes about how Enterprise Resource Planning systems are enabling businesses to become agile, efficient and reduce costs. – *"Organizations must conduct an internal analysis to figure out whether adopting an ERP system is the right decision. Identifying broken processes is important for growth and finding areas of improvement."*

EDITOR'S NOTE



Soumika Das

Things have been changing around the world. While some countries are relaxing norms and opening up, others have been hit with fresh waves of COVID. If there is something we can be sure of, it's that the new normal is going to look different for people around the world.

Organizations have been experimenting with policies to ensure their workforce remain engaged and productive. It is safe to say that the concept of work has evolved in the past year and half, including how people collaborate and innovate. Hybrid work has been popping up a lot in the discussion around future of work – with each organization defining their own hybrid.

People's expectations have changed. Flexibility is not just limited to place and time; it also includes changes in how and why people work. The Great Resignation may have been fueled in part due to changes in the attitudes of people towards work.

Data says more than 50% of the workforce want flexibility in work, but they also want human connection so that they can collaborate. It is not going to be easy to figure out how to solve this paradox. It is an imperative that leaders are going to have to prioritize now.

This brings me to 'metaverse'. Tech companies have been talking about the metaverse for some time now. But the recent announcement by Facebook's CEO on their focus on "an immersive embodied internet", including renaming themselves Meta, has grabbed a lot of headlines. Metaverse will make our digital experiences more immersive and blur lines between being online and offline.

The metaverse has a lot of use cases and implications for the workplace. It has the potential to upgrade remote work by allowing coworkers to share virtual space and thus collaborate better. It is exciting to look forward to how it will either evolve or define the Future of Work.

We have some insightful articles in this edition.

Team enGAge spoke to **Bouchra Galluccio, VP of DevOps and Quality Engineering, Healthfirst**, on the challenges she has faced and how that has shaped her, her definition of success, her take on leadership and more. Please do read her interview.

Srinivasan Sundararajan has written, '**Alternative Payment Models - Payment Transformation in Healthcare**'.

Rabiya Basri has written, '**Easing into Hybrid Work with ZIF™**'.

Sundaramoorthy S has written, '**Blockchain for Cybersecurity**'.

Aravindh S has written, '**Passwordless Era is Here!**'

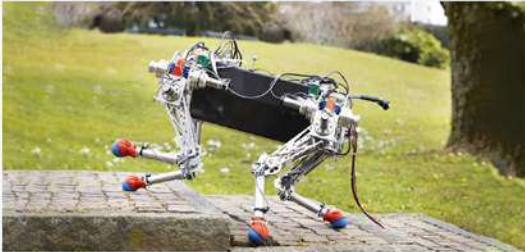
Rajalakshmi M has written, '**Computing and Sustainability**'.

Naveen K T has written, '**ERP - Empowering Businesses to Succeed**'.

What's new in Tech

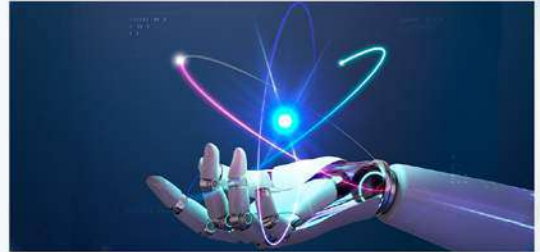


Four-legged Robots



Engineers at the University of Notre Dame, have built multi-legged robots capable of maneuvering in challenging environments and accomplishing difficult tasks collectively, mimicking their natural-world counterparts.

Breakthrough proof clears path for quantum AI



Convolutional neural networks running on quantum computers have showed potential to analyze quantum data better than classical computers can. These neural networks can be used to solve a range of problems, from image recognition to materials discovery.

Blockchain tech could provide secure communication for robots



According to a study by researchers at MIT and Polytechnic University of Madrid, blockchain technology could be used as a communication tool to provide security and safeguard against deception. Blockchain offers a tamper-proof record of all transactions and inconsistencies in the information trail can be identified.

AI shows potential to spot unseen signs of heart failure



A special AI-based computer algorithm was able to learn how to identify subtle changes in electrocardiograms (also known as ECGs or EKGs) to predict whether a patient was experiencing heart failure. If it gets the go-ahead, this algorithm will enable quicker diagnosis of heart failure.

GAVS' Case Studies recognized as 'Standout' by 2021 ISG Digital Case Study Awards™

GAVS' infrastructure modernization solution for BronxCare Health System, a large non-profit healthcare system in the US, through AI-led IT services and our solution for a US-based mortgage company have received the recognition.

Infrastructure modernization with AI-led IT services for a non-profit healthcare system



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For BronxCare, GAVS' AIOps solution, ZIF™, provided managed IT services enabling predictive IT operations that prevented system outages, improved system availability for both clinical and non-clinical operations, and helped reduce the cost of IT operations by over 40%, allowing caregivers and staff alike to spend more time caring for patients.

AIOps adoption improves reliability of IT and business operations in mortgage services



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For the Mortgage Services company, ZIF™ provided a centralized platform for incident prevention and detection, reduced outages and disruption, provided over 94% accuracy in predicting system failure and improved performance by 30%.

The logo for GAVS, consisting of the letters "GAVS" in a bold, blue, sans-serif font. A red circle with a white dot inside is partially visible in the top right corner of the page.

American Heart Association 23rd Philadelphia Heart Walk

Against heart disease and stroke

GAVS is honored to be invited by Siemens Healthineers to participate in the 2021 Philadelphia Heart Walk, a premier event of the American Heart Association. Join us in this initiative, as we come together to raise lifesaving funds.



Date: November 6, 2021

Time: 8:00 a.m. ET

Location: Citizens Bank Park, 1 Citizens Bank Way, Philadelphia

To join us, please visit:

https://www2.heart.org/site/TR/HeartWalk/FDA-FoundersAffiliate?pg=entry&fr_id=6084



Introducing Bouchra Galluccio, VP of DevOps and Quality Engineering, Healthfirst



Bouchra Galluccio

*VP of DevOps and Quality Engineering,
Healthfirst*

Bouchra is a dynamic, result driven IT executive with a proven track record of leveraging technology to drive company growth, performance and profitability. She drives increased revenue contribution to the business via IT stabilization and performance through the implementation of mature IT processes, development tools, and infrastructure simplification. She works as an influential partner who is proficient in building high performing Agile matrixed teams that cross the lines of business and IT.

1. Tell us something about your childhood. What values had been instilled in you that helped you excel later in your life?

Competition at home 😊 One thing that helped build my character was that I grew up in a large family, I'm the youngest of 10 siblings. As anyone with so many siblings would know, it was hard to get my voice heard. I had to learn how to speak up! It shaped my personality, which some may gently describe it as assertive, others as very strong. I learnt from others but tried not to imitate anyone. This helped develop my own personality and stand out from the rest.

2. What have been some of the biggest challenges in your life and how has that shaped you?

When I came to the US, I had to balance education and work. I had no help. It was a completely different environment and getting used to the American culture took time, but I liked it. I learnt the value of working, saving and paying all my bills on time. That's something I didn't have to worry about back at home, living with parents. Language was another challenge I had to overcome. I had a job checking coats and I would practice in the coat checking room. I picked up books, watched news.

As a woman there are challenges in the corporate world too. I had to ensure my voice was heard. I had to prove myself, so that I could grow and be valued.

I thrive in challenging situations; my best doesn't come out if I'm not challenged. I view challenges

as opportunities. Life is a set of tests or challenges that we have to overcome and the beauty of it is when you overcome them that's when you feel like you're really living.

3. When did you discover your passion for technology?

I ended up here by accident. I wanted to be a pilot, but my eyes weren't good enough. The first computer engineering institute just opened in Morocco and I thought of giving that a shot. I always go for the crazy exciting stuff. I'm a logical person, I like learning new things, the field is always evolving and that's a challenge I like. Technologists are in a way making the world a better place, that gives me a sense of purpose that is committed to serving humanity.

4. How would you describe your leadership style? Do you believe leadership can be taught?

You have to have something in your personality, but a lot of it can be taught. The spark has to be ignited. In a workplace, leadership can be taught. I learnt from watching and working with great leaders - how they manage crisis, how they handle themselves in tough environments. Hands-on learning is the best. I also learned what NOT to do from watching others.

I initially came across as strong and forgot to listen, but I have learned how to listen. A great leader always listens, learns, and corrects. When I was learning English, I never had a problem with people correcting me, even in public. Being humble, listening and being able to correct oneself are important traits in a leader. Feedback and correction are a gift people can give you.

5. How would you define success?

I measure success by the value of what I did and its impact on others. As a mother, when I think if I was successful as a parent, it's difficult to judge but the answer lies in whether my child is good, if he's happy, empathetic and if he is a good member of the society. At work, success

to me is when we deliver products and services that helps our Members and Community. I want to be remembered as a good member of the society and at work I want to be remembered as someone who had a part in making our customer's lives better, and was a good mentor to the next generation of leaders.

We at Healthfirst have a saying, "We serve the underserved". The people we work with, their lives have not been that fortunate. When it comes to at least healthcare, we want to make sure that it becomes easier for them to access it. It fulfills me and makes me happy.

6. Tell us something about the social causes that you support.

My upbringing has taught me to be humble, I know not everyone has the opportunities and blessings that I have. One cause that I feel deeply about is empowering girls in underserved areas. Back home in Morocco, we help provide schools in rural and remote areas. Because of the distance of the schools, it's usually the girls' education that end up suffering. If we educate a girl, she takes care of her whole family. Education not just helps women but empowers them to have a voice and options in life.

7. How important do you think is 'Diversity and Inclusion' for corporates?

Diversity brings different ideas and perspectives to the table. Not just that, they can help define the problem differently too, bring new ideas and make us better. At Healthfirst, you can see the melting pot of cultures reflected at our workplace. I am an example of the diversity we have there. We are a community-based healthcare organization and its important for us to understand the psychologies of each community we serve. It makes us rich and successful.

8. What advice would you give those who want to pursue a career in STEM?

STEM is a great field, with plenty of opportunities. We could use a lot more women in STEM. Girls should be encouraged to pursue it. There is never a boring moment in my career, we're always learning. It's exciting and challenging and if you like that, it is the place to be. Technology as a career, you don't have to be limited to a business or industry. It opens amazing doors for you. We can never have enough people, there is always room for bright minds here.

Alternative Payment Models - Payment Transformation in Healthcare



Srinivasan Sundararajan

The healthcare industry is in the midst of a transition from a system of payment based on the volume of services provided (fee-for-service) to payment based on the value of those services (value-based care and alternative payment models).

Payment transformation in healthcare is about how healthcare providers can change their economic incentives to encourage value over volume?

Traditionally, healthcare providers are paid in a 'Fee-for-Service' (FFS) model. This is exactly what it sounds like: every time you visit a doctor, have a blood test, a CT scan, or any other service, you (and your insurance company) pay separately for whatever service you have received. Over the course of a long treatment or a chronic condition, that can add up to a huge expense.

The healthcare providers are incentivized to order more tests and procedures, even when not needed in the FFS reimbursement model. These additional medical procedures may not be supported by evidence-based data.

Value-based reimbursements motivate clinicians to connect with patients and provide care appropriate to each individual's circumstances. It is beneficial for patients as healthcare professionals are able to evaluate the care process, patient outcomes, and data.

An Alternative Payment Model is a payment approach that gives added incentive payments to provide high-quality and cost-efficient care.

Alternative payment models, or APMs, reward health care providers for the quality of care they provide, rather than the volume of services they furnish to patients. APMs are one way that insurers are moving toward a value-based payment system and away from the traditional fee-for-service system — a priority for

both the private sector and the federal government.

The remaining sections of the article discusses the various Alternative Payment Models.

Accountable Care Organizations (ACO)

ACOs are groups of doctors, hospitals, and other healthcare providers, who come together voluntarily to give coordinated high-quality care to their Medicare patients. Participants are accountable for cost and quality of care for target patient population.

When an ACO succeeds in both delivering high-quality care and spending healthcare dollars wisely, it will share in the savings it achieves.

Initially, ACOs started to support the payments from federal plans like Medicare and Medicaid. Since then, commercial payers such as Aetna, Cigna, and United Healthcare have been busy adapting the government model into a more flexible effort that appeals to a wide range of providers.

Accountable Care Organizations (ACOs) offer enormous opportunity for patients and providers to work together to achieve enhanced quality of care, reduced costs, and improved health outcomes.

Episode Based Payments

An Episode from the point of view of care is all services provided to a patient with a medical problem within a specific period across a continuum of care in an integrated system.

In other words, an Episode of Care is a patient's entire treatment needed for an illness or an episode. The

following diagram gives an overview of life cycle of an episode.



Bundled payments represent one form of alternative payment models (APMs) that are designed to move towards value-based care by incentivizing providers to advance coordination and efficiency of care while also improving quality and outcomes at lower costs. With bundled payments, the total allowable acute and/or post-acute expenditures (target price) for an episode of care are predetermined. Participant providers share in any losses or savings that result from the difference between this target price and actual costs.

The Oncology Care Model (OCM) is a 5-year project led by the Centers for Medicare and Medicaid Innovation (CMMI) that requires practices to reduce the cost of care while improving quality and patient outcomes. The OCM is structured as a 6-month episode-based payment model that begins when a patient receives a qualifying chemotherapy treatment, and includes the total care provided to the patient during that 6-month period, including non-oncology care.

Primary Care Transformation Model

Primary Care First is a set of voluntary five-year payment model options that reward value and quality

by offering innovative payment model structures to support delivery of advanced primary care.

Primary Care First is based on the underlying principles of the existing CPC+ model design: prioritizing the doctor-patient relationship; enhancing care for patients with complex chronic needs and high need, seriously ill patients, reducing administrative burden, and focusing financial rewards on improved health outcomes.

Comprehensive Primary Care Plus (CPC+) is a national advanced primary care medical home model that aims to strengthen primary care through regionally-based multi-payer payment reform and care delivery transformation.

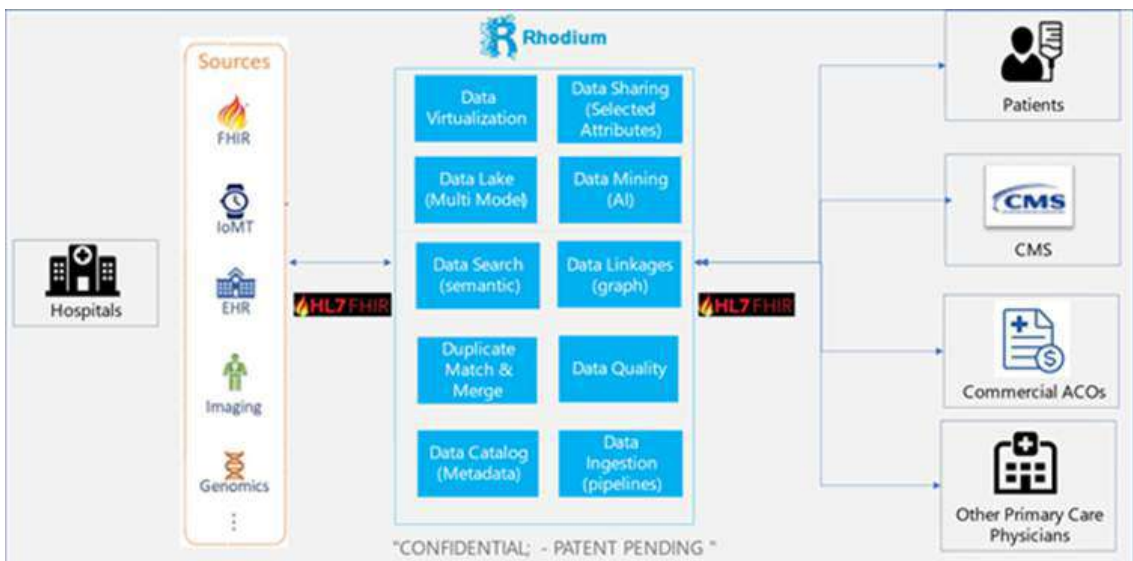
Comprehensive Primary Care Plus (CPC+)

- America's largest ever initiative to transform primary care
- Medicare-led, multi-payer, medical home Advanced Alternative Payment Model (AAPM)



GAVS Rhodium Framework for Payment Transformation in Healthcare

GAVS Rhodium , aims at providing solutions to long-standing data integration challenges faced by data and analytics leaders in a Value Based Healthcare ecosystem.



Post pandemic, healthcare is at crossroads and is looking for ways to transform itself. Value-based care, a model that prioritizes patient health quality outcomes versus patient services volume, has the potential to be a silver lining of this pandemic. In that context, healthcare should also transform towards alternative payment models like, **Total Cost of Care (ACO)** and **Episode-based Bundled Payments**.

However, achieving the desired data maturity and the associated insights is not easy for current care due to legacy data platforms. In that context, **GAVS Modernization Data Fabric Framework – Rhodium** has all the building blocks and can be the one-time solution for Healthcare to achieve the desired outcomes.

¹ Rhodium does not aim to replace existing EMR/EHR Platforms used by Healthcare Providers, but creates a Data Fabric Layer on top of legacy systems across stake holders and thus providing a unified view.

About the Author

Srini is the Technology Advisor for GAVS. He is currently focused on Healthcare Data Management Solutions for the post-pandemic Healthcare era, using the combination of Multi Modal databases, Blockchain and Data Mining. The solutions aim at Patient data sharing within Hospitals as well as across Hospitals (Healthcare Interoperability), while bringing more trust and transparency into the healthcare process using patient consent management, credentialing and zero knowledge proofs.

Easing into Hybrid Work with ZIF™



Rabiya Basri S M

As per a Pew Research Centre report released in 2020, 71% Americans were working from home at the time of the survey and 54% said they would want to continue working from home after the coronavirus outbreak ends. However, a 2020 study by The Martec Group found that *“job satisfaction, motivation, and mental health declined significantly for remote workers across multiple industries, demographics, and seniority levels during the pandemic.”* It was also found that creativity and collaboration suffered due to remote working during the pandemic.

The discussion around the future of work has a lot of people supporting hybrid work. At least that’s what the survey results say. A McKinsey research found that 52% of the employees surveyed would prefer a more flexible working model post-pandemic. A Salesforce survey reported that 64% of workers want to spend at least some time at a workplace instead of working entirely remotely.

Transitioning to a hybrid mode will require an overhaul of the existing policies and culture. One of the major challenges to be overcome are the technological issues, which require a robust IT infrastructure.

Home networks are now operating as an extension of the business network. They must be secure, and it is well understood that VPNs alone will not suffice. There is troubleshooting, configuration, ongoing upkeep and monitoring, and much more to consider. It can be enough to distress an IT team when multiplied by hundreds or thousands of remote employees.

But employees don’t have complete control over their system availability and security. They could be directly or indirectly using applications, services, servers, and other IT environment components. The application or service could be anything, including desktop applications, online or cloud-based SaaS apps, and PaaS/SaaS-based web services such as payment

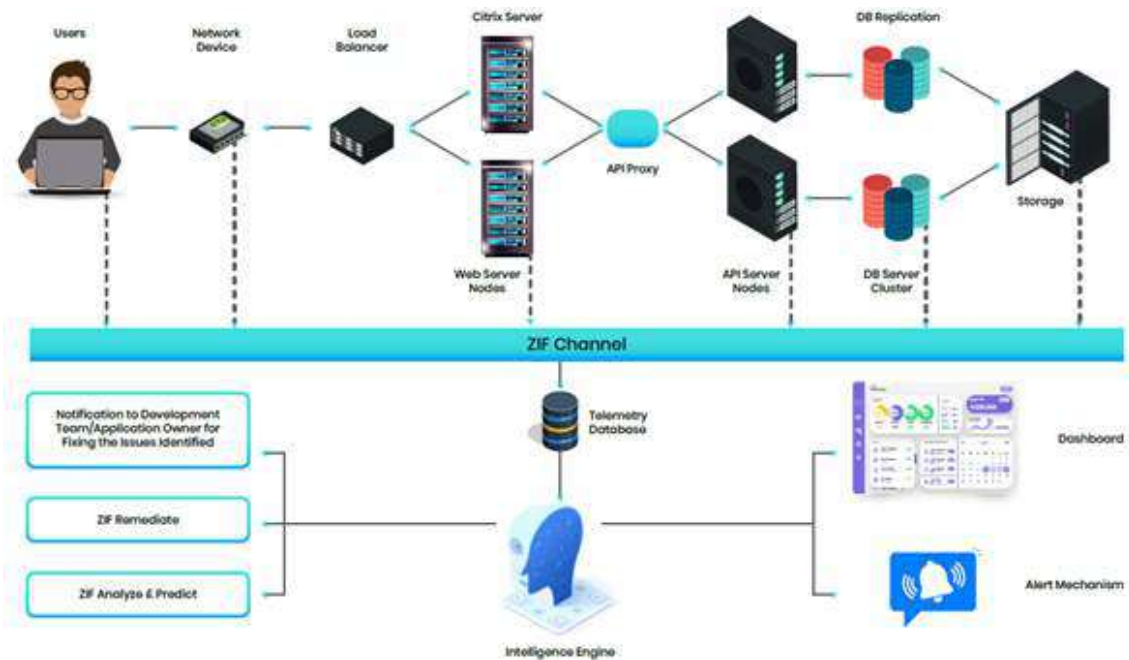
gateways and APIs, among other things. It could become overwhelming for the IT team to fulfil their job obligations successfully in the new distributed environment.

Most significantly, disruption in work may lead to interruption in services for the end-customers which can or rather definitely have negative impact on the business. Keeping the customers delighted is the single-most important goal of all businesses. Failing to do which, will impact the company’s goodwill and revenue.

Organizations can ensure the smooth functioning of systems for their remote workforce through remote monitoring and remediation of issues. This is where the Zero Incident Framework™ (ZIF™) comes into the picture.

With its advanced AI and ML algorithms, ZIF™ helps to monitor the system performance of an enterprise and predict any issues before they strike. ZIF™ also helps with self-remediating the impending issues.

ZIF Monitor is a component of ZIF™. Its key objective is to improve user experience through real-time and proactive monitoring of the IT environment. In real-time, it monitors all the layers involved in the user experience. Applications, databases, servers, APIs, endpoints, and network devices are just a few of the layers that are monitored.



Agents assist with end-user monitoring, capturing various health parameters about the environment and the system. They have intelligence built into them. When the target environment is already short on resources, the agent does not load it; instead, it collects health-related indicators and conveys them efficiently and effectively through the telemetry channel. The intelligence is used to determine which parameters should be gathered, how long they should be collected for, and other factors.

ZIF Automation module not only reduces the resolution time but also helps in leveraging your system to self-heal. ZIF™ has perfected the art of foreseeing device, application, and service failures. It can also foresee a performance deterioration. ZIF™'s auto-remediation bots can handle foreseeable faults, ensuring that customers get the performance they expect. This one-of-a-kind offering from ZIF™ gives IT engineers an edge on the service reliability of the IT assets they handle.

ZIF™'s Capabilities for Improving Service/System Availability and User Experience



Overall, ZIF™ empowers your team by enabling their systems to be reliable and available. ZIF™ troubleshoots employee connectivity issues, checks work device performance, monitors network with real-time threat insights, and more. With ZIF™, a smooth transition to hybrid and remote workplaces is possible. The only thing employees should worry about their tasks and not about the availability of the service/system/application. ZIF™ makes it possible for an organization to have seamless productivity irrespective of the employees' work locations.

Find out how ZIF™ can help your organization here: <https://zif.ai/>

About the Author

Rabiya is part of the ZIF Product Marketing team. She has worked as a Software Engineer for four years. She is curious about the latest trends in Technology and the latest AI products in the market. Outside of work, she enjoys gymming and is interested in Nutritional Science and Wellness. She also likes cooking, sketching, and painting.

Blockchain for Cybersecurity



Sundaramoorthy S

In today's hyper-connected world, financial transactions are instant, access to vast information is at our fingertips, and same-day package delivery is a reality. The digital era is compressing the turnaround time of various activities, but it is tagged with additional cost

The identity data available online which are often not protected with strong passwords include login credentials, banking details, PII, PHI, EMR, EHR, SSN and passport numbers. These data are not always protected with secured protocols, leaving it vulnerable to hacking. This calls for strengthening of the defenses and in this article, I will be highlighting how Blockchain plays a major role in it.

What is Blockchain?

Blockchain is a system of recording information in a mechanism that makes it harder to change, hack, or cheat the system.

A blockchain can be thought of as a digital ledger of transactions that is duplicated and distributed across the entire network of computer systems on the blockchain. Each block in the chain contains several transactions, and every time a new transaction occurs on the blockchain, a record of that transaction is added to every participant's ledger. The decentralized database managed by multiple participants is known as Distributed Ledger Technology (DLT).

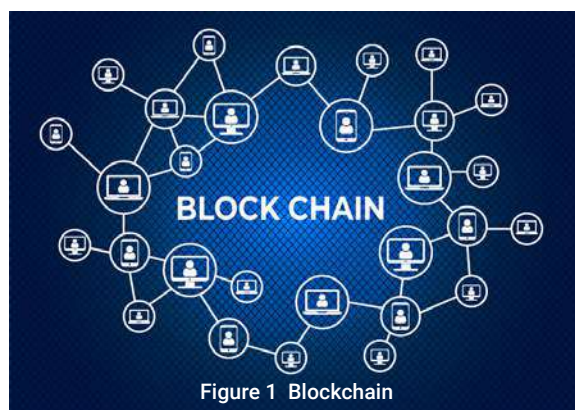


Figure 1 Blockchain

Blockchain is a type of DLT in which transactions are recorded with an immutable cryptographic signature called a hash.

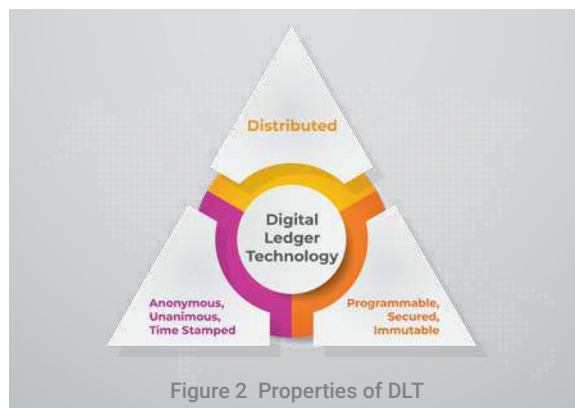
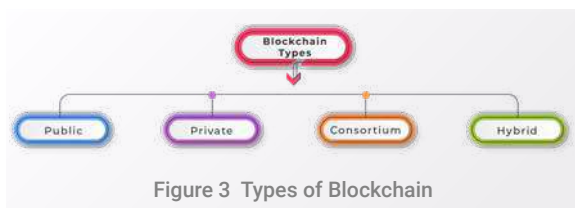


Figure 2 Properties of DLT

This means if one block in one chain was changed, it would be apparent it has been modified. To corrupt a blockchain system, every block in the chain, across all the distributed versions of the chain would have to be changed.

Types of Blockchain

The two most common types of blockchains are private blockchains and public blockchains. There are other variations such as the consortium and hybrid blockchains. Let us discuss each in detail.



Public Blockchain Networks

A public blockchain is one that anyone can join and participate. These require substantial computational power. Other drawbacks include little or no privacy for transactions and weak security. These are important considerations for enterprise use cases of blockchain.

Private Blockchain Networks

A private blockchain network is also a decentralized peer-to-peer network. However, one organization governs the network, controlling who can participate, execute a consensus protocol, and maintain the shared ledger. Depending on the use case, this can significantly boost trust and confidence between participants. A private blockchain can be run behind a corporate firewall and even be hosted on premises.

Hybrid Blockchain Networks

A Hybrid blockchain works by generating the hashed data blocks using private blockchain network, this is followed by storing the data in a public blockchain without compromising the data security.

Consortium Blockchains

Different organizations can come together to share the responsibilities of maintaining a blockchain. These organizations determine who may submit transactions or access the data. A consortium blockchain is ideal for business when all participants need to be permissioned and have a shared responsibility for the blockchain.

Blockchain for Cybersecurity

Business Blockchain is the latest technology which provides security solutions for most domains including Banking, Healthcare, Insurance and Food industries. Digital Ledger Technology is the key

building block of Blockchain, which makes it robust in security and difficult to breach.

Following are few key features of Blockchain.

Associated Data Blocks

In blockchain, every single transaction is stored in the form of blocks, every block is associated with one other block when its integrated with the digital ledger. This makes the blocks more secure than other security mechanisms. When a third party tries to hack the data or modify it, changes will have to be made everywhere the data is associated, which is difficult. The data is immutable since it is appended with time stamps. Hence, the data is secured.

Data Encryption

The Digital Ledger Technology (DLT) in blockchain makes the data encrypted cryptographically while storing it in ledger for any transaction and information sharing. This ensures the data is secured in the network and there is no room for hackers to steal the data or modify it.

Decentralization

The data could be stored in the different locations, no centralized location for data storage is required. The hacking or modification to the data needed to be done in all the locations to hack the data, which is difficult, this makes the data ever secured.

Traceability

Since all the information is stored in ledger with timestamps and in chronological order, tracking the data becomes simple and unauthorized access to data could be traced easily.

Availability

Blockchain platforms can be private or publicly available. Therefore, Blockchain cybersecurity offers authorized access, reliable backup, fault tolerance, redundancy, and prevent data loss.

Confidentiality

Blockchain technology has the capability to protect against unauthorized data access. Data will not be made accessible without an organization's consent. With blockchain, data is secured throughout the transaction in the ledger and afterwards as well.

Blockchain Vendors

Following are a few key blockchain vendors that provide BaaS product (Blockchain as a Service). Regardless of industry, and service providers can leverage these BaaS products to develop their applications

1. Amazon Web Services (AWS)
2. IBM Blockchain
3. Microsoft Azure

Blockchain provides enhanced data security and paves the way for the future of secured data environments. With DLT, chronological order of saving data, consensus algorithms and time stamps, blockchain is poised to provide strengthened cybersecurity for businesses.

About the Author

Sundar has more than 13 years of experience in IT, IT security, IDAM, PAM and MDM project and products. He is interested in developing innovative mobile applications which saves time and money. He is also a travel enthusiast.

Passwordless Era is Here!



Aravindh S

Angie, Payroll Manager, went to the Cybersecurity team to report her phishing email attack. She was terrified after she realized that she entered her password in fake bank site, which was morphed for a targeted credential harvesting attack.

Unfortunately, it is far too common for people to click on fake URLs and enter their credentials in seemingly genuine-looking websites.

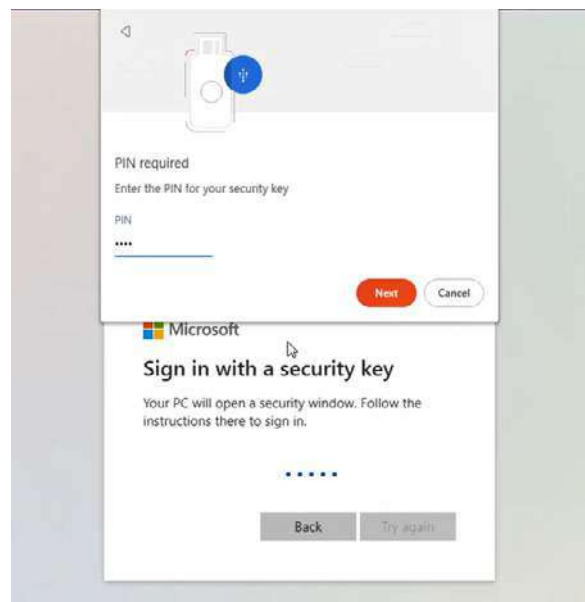
Therefore, now is the time to go Passwordless with an authenticator app or FIDO2 (Fast Identity Online) security keys that eliminates the use of those credentials. The attacker can't mount a harvesting attack on a website if there is no password field. It is a secure method where users can log in to their e-mail, applications, and systems using face ID, fingerprint, biometrics, push notifications without typing or remembering their passwords.

There are numerous business benefits of using Passwordless and FIDO2, and it is the current breakthrough in secure digital transformation.

- Increased security for clients and employees by preventing phishing, malware keylogging, credential harvesting, and network sniffing attacks that avoids high data breach costs.
- Reduced user friction and fast user authentication experience since clients and employees will no longer have to face password fatigue and will not be required to fulfill the compliance and legal liability for the organization.
- Assurance of the fact that only the right people are authorizing sensitive transactions because passwords do not prove identity.
- Employees and customer success teams can reclaim their time from password resets,

including the Incident Response team, because they do not need to identify and reset all compromised accounts daily.

- No more password policy administration.
- Users unlock cryptographic login credentials with their own devices or by leveraging easy-to-use FIDO2 security keys.



Public key infrastructure (PKI) is used for issuing digital certificates to protect sensitive data, unique digital identities for users, computers, mobiles, servers, and secure end-to-end communications. PKI and FIDO2 (Fast Identity Online) together enable strong authentication and digital certificates

- FIDO protocols have these advantages over PKI – it creates Certification Authorities (CA) to issue digital certificates to entities that protect sensitive data, renews and manages certificates

- FIDO and PKI support the following enterprise use cases,
 - o Web Client Authentication,
 - o Single Sign-On experience,
 - o Document Signing,
 - o Device logon,
 - o Thick client authentication to a remote server

In the near future, Darknet will not be able to circulate credentials, which will ultimately reduce breaches.

LastPass by LogMeIn along with independent technology market research specialist Vanson Bourne has conducted a research to understand the current state of passwords in organizations and how these trends are driving passwordless authentication models moving forward. The report stated that 92% of respondents believe Passwordless authentication is the future of their organization.

Organizations can go about their Passwordless journey and strong authentication by planning technology needs, enrollment methods, and costs. Most browsers, identity, and security providers enable Webauthn. FIDO2 standards will revolutionize the way that people securely authenticate to the web.

Please feel free to request a FIDO2 based Passwordless demo. You may reach out to us at inquiry@gavstech.com

About the Author

Aravindh is experienced in Offensive Security and Cloud-centric cybersecurity strategies to achieve cost benefits that reduce risk and exposure to threats. He empowers healthcare organizations avoid potential financial loss from their data being misused in the cloud and from being non-compliant.

In his leisure time, he loves road trips and listening to music.

Computing and Sustainability



Rajalakshmi M

Last year, Alphabet and Google CEO, Sundar Pichai announced a moon-shot goal - To run every office and data center on electricity from clean sources by 2030. It is thus committed to go free of carbon, without using offsets and relying only on clean energy purchased near its locations – 24x7x365. On paper it seems to be a very ambitious commitment to decarbonization ever by a corporate. There are reasons for dreaming so big. IDC estimates that the global data load will rise to a staggering 175 Zettabytes (ZB) by 2025. A single Zetabyte is a trillion Terabytes. And the way computing needs are evolving – we could breach this ahead of 2025.

The recent energy shortages and a short-term ban on crypto mining by some nations clearly indicate that the increased need for data centers and computing power will have consequences for the environment. The demand from data centers could account for 27% of all of Ireland's energy demand by 2029 says a report. Ireland is already worried that despite everything they do they could fall short of their emission targets with the exponential growth of data centers. The data centers today account for at least 2% of the electricity consumption in the world as per a report by McKinsey. And it is increasing day by day.

The ongoing energy crisis across countries indicate green energy is already proving insufficient for our current consumption patterns. Will our planet have enough green energy for powering our computing and storage needs?

One way is more data center capabilities need to move to the cloud. The cloud companies not only have the economies of scale but also the clout to invest in technologies that can improve efficiency and energy use. That alone is not enough.

Cooling systems - what happens to all the water being used? Are data centers recycling it and reusing it?

Meanwhile what happens during the hardware refreshes at the data center? Are the components being recycled? Can the components be reused? Can the shelf life of servers be increased if non-critical things are being run on it?

Data centers are becoming increasingly innovative and moving towards greener technology to maximize efficiency and sustainability. IoT and Analytics is being widely used to enhance performance further.



But all this will come at a cost. Many companies today use the Carbon Offset trades for reducing their imprint. Also are carbon offsets the right way? In the end someone somewhere is still polluting the atmosphere. Most of the tech behemoths with their deep pockets could drive up the price of green electricity. This could make adopting green energy difficult for other consumers. Also, the green technologies come with other unwanted consequences. The solar panels that are built to prevent air pollution – comes with panels and batteries that need to be replaced. These parts either go into landfills or the oceans. Let us take wind farms for example. Wind farms need huge areas for being operated on. This could lead to massive deforestation and loss of habitat as well. But yes – they are greener than fossil fuels.



Sundar Pichai said we cannot hire the best of talent in the future if we do not pay attention to our sustainable goals. Many other technology companies are also taking their Sustainability Goals seriously and pursuing it. Some do it with powering offices with renewables. Some do it by purchasing offsets to go carbon neutral. Some do it by channeling their Corporate Social Responsibility initiatives towards the environment. As millennials and Gen Z make sustainability as part of their daily lives, the Gen Alpha who will enter the workforce in the next decade will have sustainability ingrained in them. But is what we do enough?

What else can be done? The answer is with the Governments, corporations and individuals and themselves. Incrementally all of us will continue to make our investments and efforts towards increasing sustainability. Apart from the journey towards cut-throat computing efficiencies, some more questions need to be answered – how much data do we want to store? How much more data should we process? How much latency do we want to reduce? Does everything need 24/7 availability? Does everything need to be streamed and used without local copies? Does everyone need so much processing power?

We still have only one habitable planet. And nurturing it will mean finding a balance even in the computer power we seek.

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About the Author

Rajalakshmi is part of the CEO's Office at GAVS. When she is not working, she is fond of making herself aware of what is happening in the world and loves to understand why people behave the way they do. The means to these ends include reading, running, travelling and starting conversations with different types of people!

ERP - Empowering Businesses to Succeed



Naveen K T

One of the most important things to invest in while scaling up a business is an **Enterprise Resource Planning** system (ERP). An ERP is a software consisting of a suite of applications to efficiently manage various business processes and thus run the business smoothly.

An ERP system consolidates the different business processes, enables the flow of data between them and provides complete visibility into the business processes – single source of truth.

It is designed in a way to centralize and optimize operations, while reducing manual work. For e.g., in a supply chain industry, an ERP system could automatically run a financial analysis and can predict future stock needs to keep inventory at a healthy level.

There are specific modules available for different industries, so companies can pick and choose as per their requirements.



ERP Implementation Life Cycle

To implement ERP in any organization, they must adhere to the implementation process under the life cycle.

- Selection of packages
- Project Planning
- Analysis GAP
- Re-engineering
- Training

- Testing
- Application
- Maintenance



Use Cases of ERP

Finance

An ERP system can automate, simplify and evaluate most of the accounting processes. An ERP solution can compute and analyze within minutes what might take days for a human to achieve. Such types of software can facilitate budgeting, payroll, banking operations and billing. The system conducts cost analysis to better manage cashflow and forecast future growth.

Human Resources

An ERP solution can also help with hiring, training new employees and tracking their productivity. Each employee can log into the system and enter the time they worked and manage benefits. The system can send out employee surveys and news. It provides an online community for employee collaboration and lists the policies and procedures for the company.

Inventory and Supply Chain Management

The system manages what is needed to flow seamlessly to the inventory management team. The inventory and materials management helps keep track of stocks, set appropriate price points and locate items within the warehouse. Supply Chain Management (SCM) eliminates the human error that can result in costly mistakes in the distribution system.

Manufacturing Management

ERP systems can enable organizations with production control, process synchronization and quality evaluation. The system can also analyze the financials of a manufacturing company and automatically adjust processes based on cost analysis and forecasting.

Benefits of ERP

Over the past decade, the ERP solutions has inarguably become one of the most reliable platforms to run business operations. By now, the businesses have generated an exceptional volume of data and this trend of constant expansion is accelerating each day.

Increases Organization-Wide Productivity

An ERP system can automate repetitive processes, reducing manual tasks to an absolute minimum. The system not only improves the productivity of the operations, but it also eliminates the possibility of inaccurate data entry. Further, the ERP system makes it easier for the organization to collect and access all data. The systems are designed in a way to keep the business on track, identify and solve flaws and make managing the business much easier than before.

Enables Informed Decision-Making

The ERP acts as a central hub for storing all real-time information across departments. It enables the business to make accurate forecasts and realistic estimates. It also helps generate deeper insights and get quick answers to mission-critical business questions.

Agile Business

When tedious tasks take up much of the employees' time, that often leads to a delay in production, which affects the business and even the customer experience. ERPs are flexible enough to adapt to shifting market dynamics and changing needs.

Save Operational Cost

Once implemented, the ERP system helps in streamlining all our business process by reducing the overall running cost. The employees get the tools they need to make a proactive decision, that has the potential to increase the efficiency and reduce operational costs associated with manual information tracking, marketing, employee engagement, production, and other processes.



AI-Powered ERP System and its benefits

When an ERP system is paired with AI and ML, it can help predict the best course of action based on historical data. Such functions are vital for strategic business planning. Business leaders increasingly adopted AI to improve efficiency, productivity and ultimately overall business results. There are other countless benefits of AI-enabled ERP software for business process improvement like,

Intelligent Data Processing

Even though ERP software offers a smart solution for improving the productivity and efficiency of the business processes, it lacks the capability of effortless processing of stored information at a supersonic speed as done by an AI-enabled system. An AI-integrated ERP software allows you to tap into real-time data from different departments and draw the right insights for accurate and efficient planning.

Automation

Manual entry of data can cause a tremendous amount of workload for employees and therefore cost many man hours. In addition to this, it can add up expenses due to data feeding errors related re-work.

Ensuring Greater Agility

With AI-enabled ERP implementation, the system become adept in tracking changing market conditions and response to those to minimize the risk and explore more opportunities. Routine tasks, which used to take up a significant portion of employees productive time, leading to inefficiency can now be automated.

Organizations must conduct an internal analysis to figure out whether adopting an ERP system is the right decision. Identifying broken processes is important for growth and finding areas of improvement. Spending a lot of time on day-to-day activities, having manual processes with multiple data sets, among other things are signs that a business needs an ERP system.

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About the Author

Naveen is a software developer at GAVS. He teaches underprivileged children and is interested in giving back to the society in as many ways as he can. He is passionate about dancing, painting, playing keyboard and is a district level handball player. He believes that, "We get what we give, be it good or bad".



If you don't build your dream,
someone else will hire you to
help them build theirs.

- Dhirubhai Ambani -

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