Patenting Cryptocurrencies: Challenges and Opportunities

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Meet The Speakers

Leah Edelman
Principal

Raisa Ahmad
Associate

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Overview

- **Housekeeping**
  - CLE
  - Questions
  - Materials
    - http://www.fr.com/webinars
- **Agenda**

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Agenda

- A general overview of cryptocurrency and blockchain technology
- Hurdles in patenting crypto-related technology
- Recent section 101 developments
- Legal considerations to asserting or defending against crypto-related patents

Technology Overview

Crypto in the Mainstream

- An estimated 21 million Americans own Bitcoin
- Venmo now lets customers buy/sell cryptocurrencies
- El Salvador recently became the first country to adopt Bitcoin as legal tender and the Federal Reserve is studying developing a digital currency
- Predicted revenue from blockchain platforms and services expected to rise from $4 billion in 2020 to $199 billion by 2030
- Between Q4 2020 and Q1 2021, consumers lost almost $82 million in cryptocurrency scams

Cryptocurrency Origins

1975: public key cryptography developed at Stanford

1983, 1995: David Chaum publishes a paper introducing anonymous electronic money and 12 years later creates the first digital currency, eCash

1997: Adam Back invents Hashcash

2008: Bitcoin white paper published

2011: Alternative cryptocurrencies begin to emerge

2021: El Salvador adopts Bitcoin as legal tender

Common Terminology

- **Cryptocurrency:** A digital medium of exchange created and stored electronically in the blockchain that uses encryption techniques to control the creation of monetary units and to verify the transfer of funds. Cryptocurrency has no intrinsic value and no physical form.

- **Blockchain:** A distributed ledger system wherein collections of data are stored in “blocks” that are chained together and spread across a vast peer-to-peer network of computers, each of which is known as a “node.” Each block contains a unique identifier called a “hash value” along with a copy of the previous block’s hash value. All information in the blockchain is also encrypted using a system of public and private keys that form a digital signature for each user, making it virtually impossible to hack user accounts

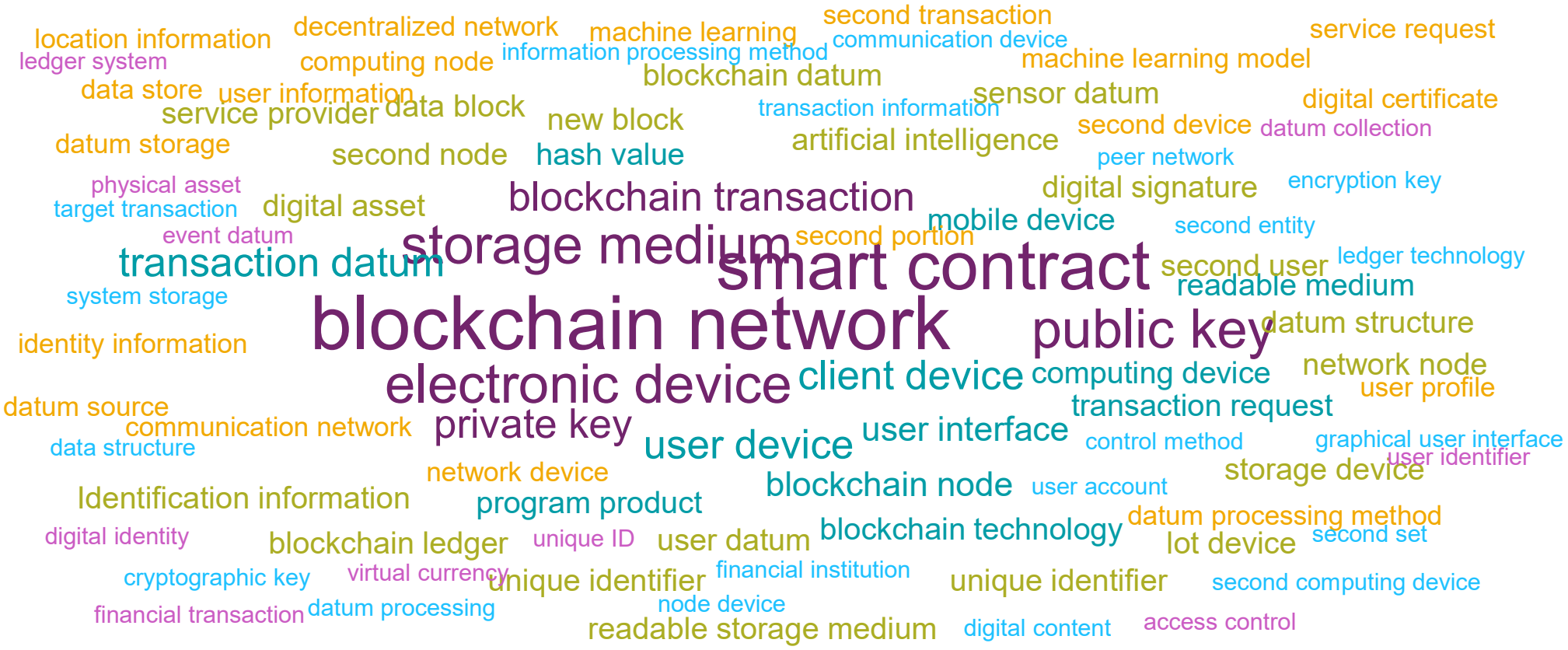
- **NFT:** NFT stands for "non-fungible token." NFTs use blockchain technology as authentication (i.e., a digital signature on a blockchain). Each NFT is unique. Each digital token can also be anything—an audio clip, a painting, a video game. If the token is traded, you receive an entirely different piece. The unique nature of the token gives it value, but its value is also tied to the renown or following associated with the creator of the NFT.

NFTs Can Be Worth Millions: Beeple's *Everydays*

- Digital collage minted exclusively for Christie's, composed of digital pictures captured every single day for 5000 days (approx. 13.5 years)
- First time a major auction house offered a purely digital work with a unique NFT
- First time a major auction house accepted cryptocurrency as a form of payment
- Sold on March 11, 2021 for $69,346,250

Hurdles to Patenting Crypto Technology

Common Terms Used in the Technology Space



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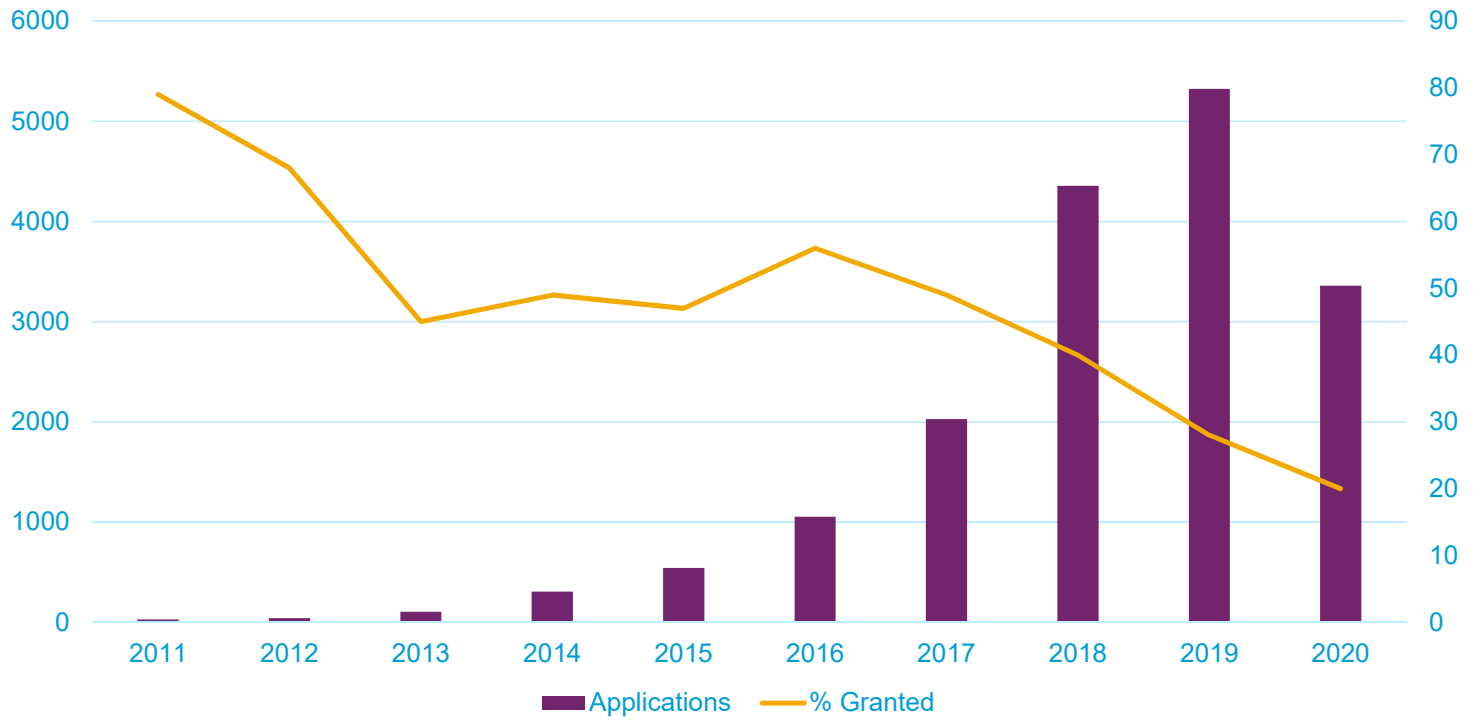
Common Patenting Issues

- **Subject Matter Eligibility**
  - USPTO considers most blockchain patent applications to be software and/or business methods
  - Understanding how a proposed solution works can be key to overcoming Section 101 issues

- **Novelty (Anticipation and Non-Obviousness)**
  - Origins of cryptocurrency and blockchain technology go back to the late 20th century
  - Open-source software is prevalent
  - Prior art is rapidly maturing and expanding into new industries

Legal Status Breakdown

- **Over 48% of blockchain patent applications are still pending**



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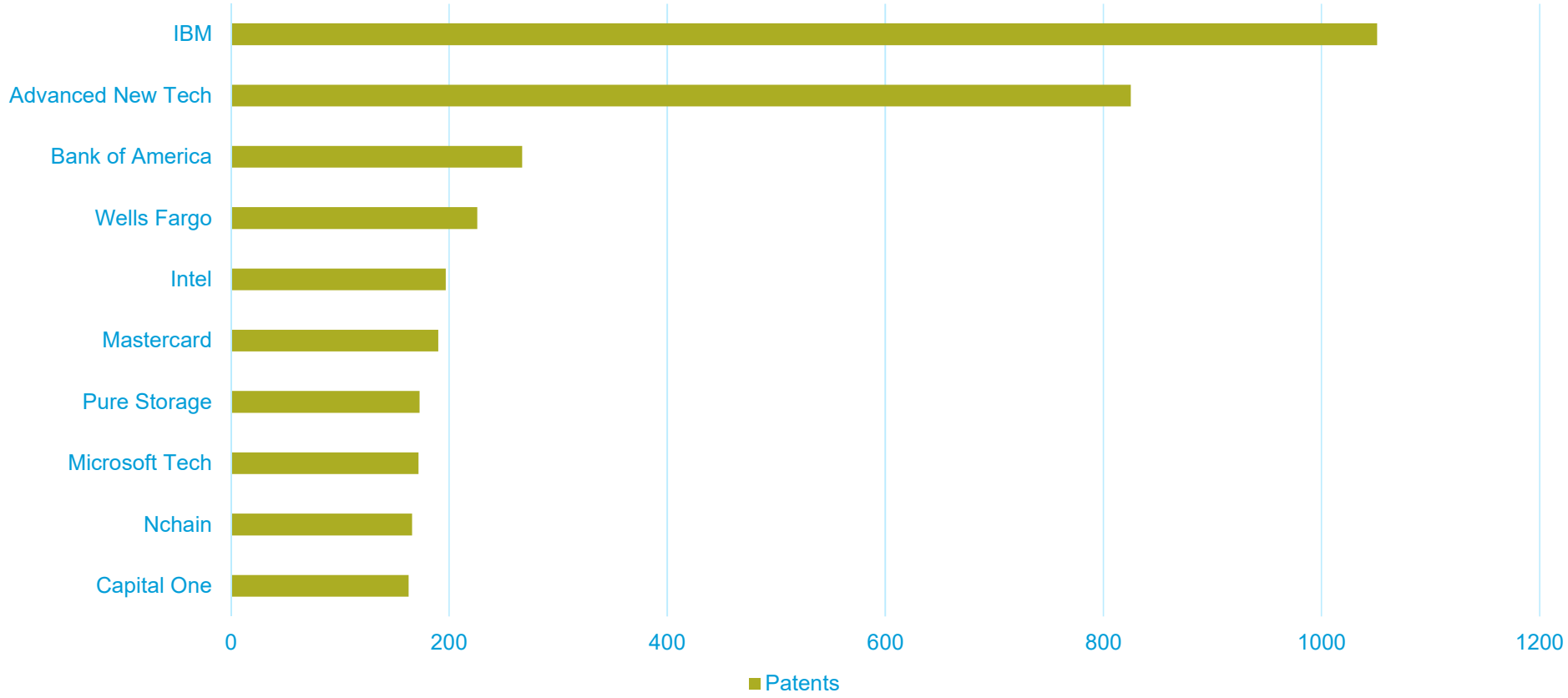
Top 10 Blockchain/Crypto Patent Assignees



Section 101 Developments

PTO's Revised Guidance on the Application of Section 101

Guidance Describes Four Inquiries

(1) Do the claims recite "any judicial exceptions" including "abstract ideas"?

- Mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes;

(2) Do the claims recite a judicial exception, and do not integrate that exception into a practical application?

- If the claim recites a judicial exception (like an abstract idea), and does not integrate that exception into a practical application

(3) Do the claims add a specific limitation beyond the judicial exception that is "not well-understood, routine, conventional" in the field;

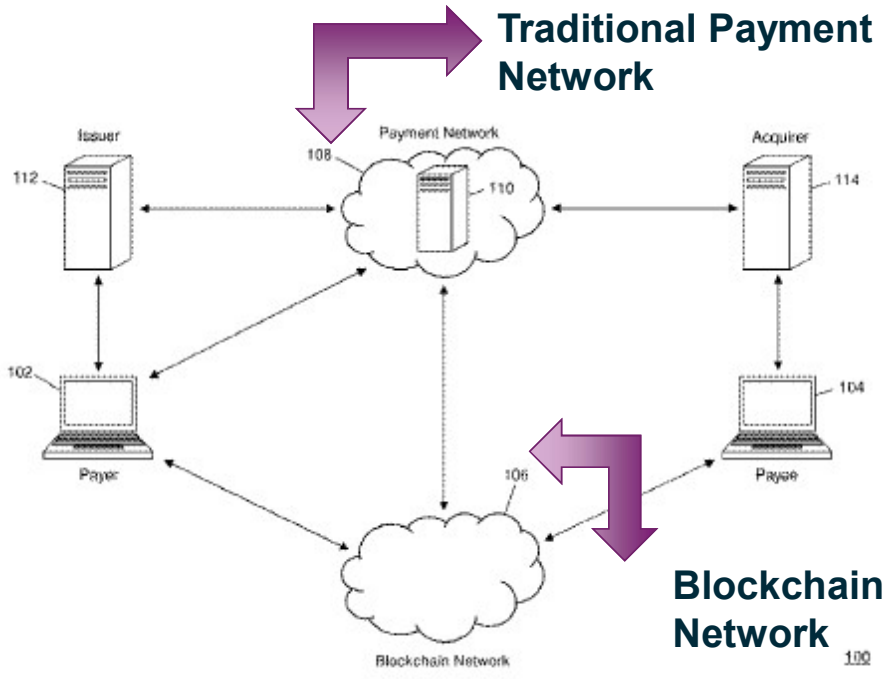
(4) Do the claims simply append well-understood, routine, conventional activities previously known in the industry, specified at a high level of generality, to the judicial exception?

USPTO, *2019 Revised Patent Subject, Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019).

Case Study – *Ex Parte Steven Charles Davis*

- U.S. Patent No. 10,963,881 relates to "**the linking of blockchain transactions to privately verified identities**, specifically the association of a blockchain transaction to a consumer or merchant associated with a transaction account based on transaction data and stored account profiles."
- The application **recognized disadvantages of blockchain transactions**, such as long processing time, the payee's inability to identify payor, and sole reliance on electronic credentials to establish ownership to the digital currency.
- The invention addressed such issues by **combining the blockchain network and traditional payment network**.

Method and System for Fraud Control of Blockchain-Based Transactions



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Case Study – *Ex Parte Steven Charles Davis*

- **Step 1 – Claims were directed to one of the four statutory categories of invention – e.g., a process, machine, manufacture, or composition of matter.**

- **Step 2 A Prong 1 – The limitations of the claims recite processing financial transactions (e.g., blockchain payment transactions) through collecting and analyzing information for identity verification (i.e., fraud detection), which is fairly characterized as a fundamental economic practice, and which falls into the "certain methods of organizing human activity" category of abstract ideas.**

- **Step 2A, Prong 2 – Practical Application? The claims recite a practical application of the abstract idea. Claims provide the security of standard payment processing systems, and the privacy of block chain payment transactions, to verify a digital signature. The claims recite the explicit use of technologies that cannot be performed by human work or mentally, even given a significant amount of time. Claims require use of both payment network and blockchain with the computer system to ensure the party in the submitted transaction message was a party to the blockchain transaction.**

- **Ordered combination recited an inventive concept that was unconventional, and presented a solution to a technical problem.**

Case Studies – *Ex Parte Steven Charles Davis*

Takeaways

- The blockchain system can acquire the **advantages of speed, security, and fraud prevention** of the standard payment processing system.

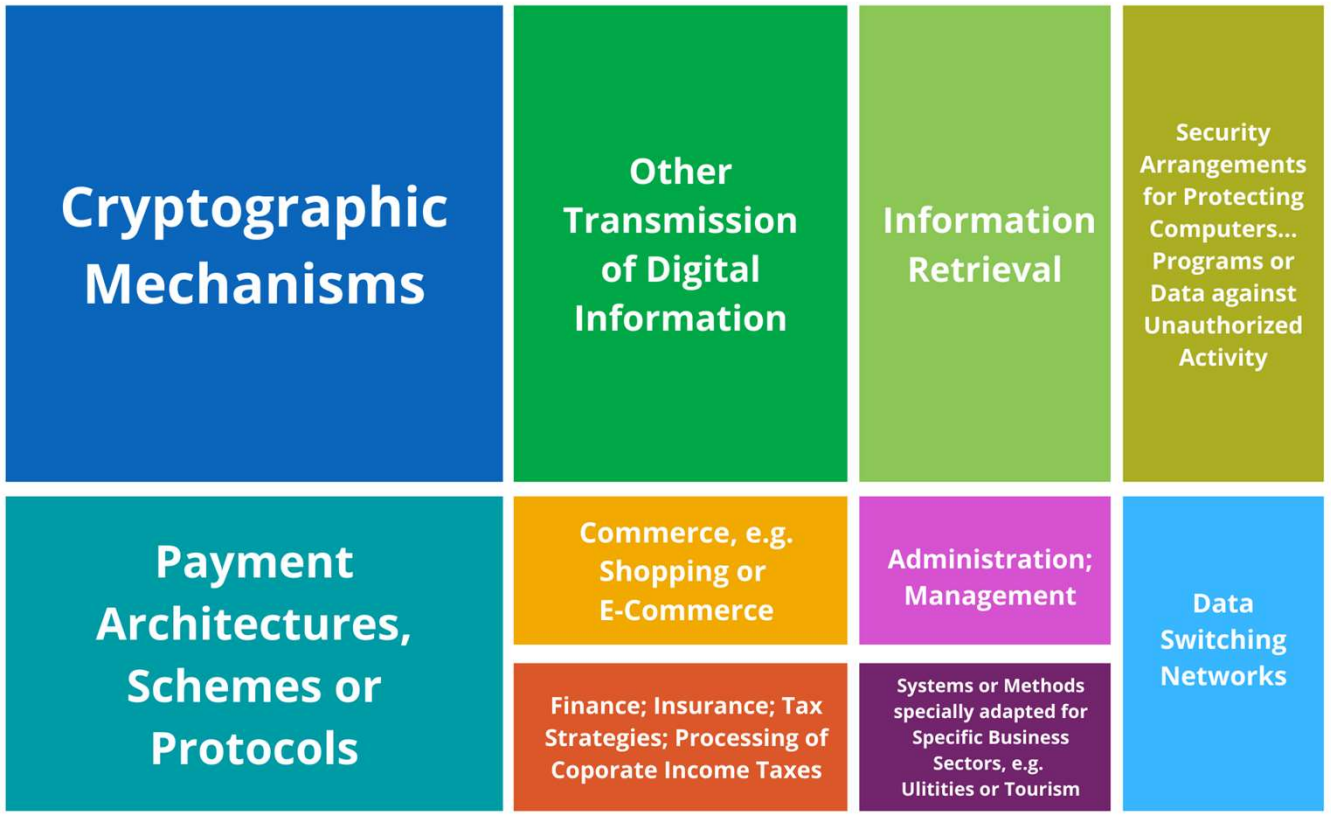
- To accomplish these **improvements the ordered combination of the additional elements links blockchain transactions to privately verified identities.**

- Claims provided the **security of standard payment processing systems** (e.g., by identifying first and second account profiles), and the **privacy of blockchain payment transactions** (by using a blockchain network to generate an address identifier using a public key), to **verify a digital signature stored in data elements of a receiver of the computer system** that is part of the account database.

Legal Considerations

Key Technology Areas

- **Consider key technology areas to understand potential areas for future litigation**



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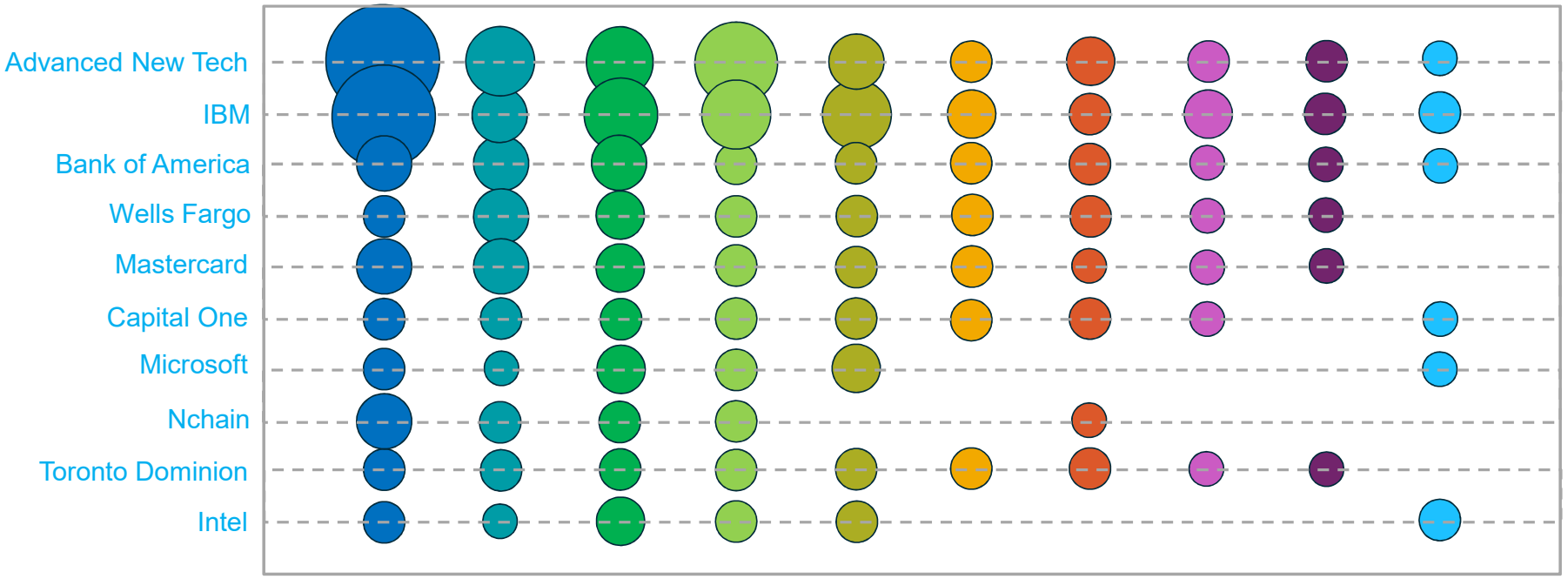
Top Assignees of Key Technologies



Blockchain Technology in U.S. District Court

- **First blockchain patent asserted in 2008**
  - MAZ Technologies asserted U.S. Patent Nos. 6,185,681 and 7,096,358 in the Eastern District of Texas
  - Accused subject matter was encryption file system software
- **At least 35 patents related to blockchain technology asserted in district court**
  - Cases filed in E.D. Tex., E.D. Va., D. Del., C.D. Cal., N.D. Cal., S.D.N.Y, W.D. Wash.
- **Some asserted patents have foreign counterparts**
  - Blockchain technology also litigated in the Netherlands, Brazil, China, and Japan
- **4 cases involving blockchain technology currently pending**
  - *TecSec, Inc. v. International Business Machines Corp., et. al.*, Case No. 1-10-cv-00115 (E.D. Va.)
  - *ZitoVault, LLC v. Amazon.Com, Inc., et al*, Case No. 2-16-cv-00027 (W.D. Wash.)
  - *Rady v. Boston Consulting Group, LLC, et al*, Case No. 1-20-cv-02285 (S.D.N.Y.)
  - *Soteria Encryption II, LLC v. Toshiba America, Inc.*, Case No. 8-21-cv-01213 (C.D. Cal.)

Lessons Learned from Litigations

- **Detecting and proving infringement can be challenging due to the distributed nature of cryptocurrency systems**
  - Rule 11 and pleading requirements must be satisfied
  - Many jurisdictions also require early infringement contentions
  - Setting discovery schedule
- **Identifying the infringing actor can be challenging and may involve divided infringement theory of liability**
  - Asserted claims should be properly vetted and focused on a single actor or controlling entity within the solution
- **Early validity challenges**
  - Filing petition for *inter partes* review may not result in a stay of litigation

Post Grant Practice Offers Alternative Avenue

- **At least six petitions for IPR have been filed on blockchain technology patents that have also been asserted in litigation**

- **IPR is a common tool for defensive strategy but can have benefits for patent holders**
  - Focuses invalidity challenges
  - May not result in a stay of the litigation
  - Timing of initial petition is key

Strategies for Preparing for Litigation

- **Cultivate and maintain your patent portfolio**
  - Develop a portfolio, whether homegrown or by acquisition
  - Benefits extend beyond potential assertion – defensive posture, stronger licensing position
- **Monitor the patent landscape**
  - Monitor USPTO filings and patent grants to understand the technology developments and potential competitors
  - Monitor complaints to anticipate potential litigation
  - Monitor post grant petitions to understand potential prior art issues
- **Consider standard-setting and patent pledge organizations, licensing opportunities**
  - SSOs offer better visibility into changes in the technology and IPR
  - Patent pledge organizations may help mitigate risk of litigation
  - Patent pools can bring together patent holders and implementers, can also pose antitrust risks

Questions?

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Thank You!

Leah Edelman
Principal
edelman@fr.com

Raisa Ahmad
Associate
ahmad@fr.com

Please send your NY CLE forms to mcleteam@fr.com

Any questions about the webinar, contact Makayla Mainini at mainini@fr.com

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