



AMERICAN ARBITRATION ASSOCIATION®

INTERNATIONAL CENTRE
FOR DISPUTE RESOLUTION®

ARBITRATING BLOCKCHAIN, SMART CONTRACT & SMART LEGAL CONTRACT DISPUTES



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PRESENTATION TOPICS

- Purpose of Webinar
- Webinar sections:
 - Background
 - Legal Contracts, Smart Contracts and Smart Legal Contracts (“smart agreements”)
 - Technologies:
 - Blockchains and Blockchain Ledgers
 - Smart Contracts and Smart Legal Contracts
 - Legal Issues and Disputes Likely to Arise
 - Arbitration of Blockchain-related Disputes
 - Salient Arbitration Clauses



BACKGROUND

- Trust is absolutely essential in relationships. Without trust, relationships either will not form or will break down.
 - All transactions are based on trust.
 - Parties often trust each other and deal directly. Alternatively, if they don't trust each other, they will deal through an intermediary which each party trusts.
- Parties traditionally trusted ledgers.
 - They are bedrock of civilization, dating back to Hammurabi's Babylon.
 - Ledgers record exchanges of value and, based on entries, allow individuals and businesses to establish trust in what each owns, what each is owed and what each owes others.
 - Double-entry bookkeeping developed during 14th Century. Its use was viewed as a moral obligation. Over next few centuries, clean books were regarded as sign of honesty.
- But, trust in conventional ledgers only goes so far: they are prone to fraud.
 - Bankers, financial actors and others can breach their moral duty to keep honest books (e.g. Bernie Madoff, Enron, Lehman Bros.).
- What society needs is a bookkeeping system in which participants can place absolute trust, i.e. can't be compromised.

SOLUTION: BLOCKCHAIN DISTRIBUTED LEDGERS

➤ Blockchain Distributed Ledgers are:

- Immutable – they provide providing unassailable trust across a broad and growing spectrum of transactions,
- Transparent -- all transactions are stored in corresponding blocks on a blockchain,
- Secure from being corrupted, and
- Tamper-evident.

➤ How is this achieved?

- In essence:
 - Blockchains are based on mathematical rules and impregnable cryptography which supplant insufficient trust provided through fallible humans and institutions using traditional accounting systems.
 - A blockchain is formed of successive blocks of data linked together, with data in each block reflecting a separate transaction.
 - Blockchain Ledgers rely on maintaining replicated identical ledgers, with each replica stored on a separate blockchain and all blockchains operated in lock-step (synchronized) with each other.

OVERVIEW: SMART CONTRACTS, LEGAL CONTRACTS, SMART LEGAL CONTRACTS

➤ Smart Contract:

- The term “Smart Contract” is a misnomer. There is no contract. There is no “intelligence”. “Smart” just means that there is computer-based processing (execution).
- A Smart Contract is merely the use of externally-applied data being processed through conditional logic associated with a block on a blockchain to invoke, based on the value of the data, a particular operation(s) on transaction data stored in that block.
- Simplistically: “If then else” type logic: If value of data = X, then perform step A on the blockchain data; else perform step B.

➤ Legal Contract: Conventional, traditional, oral or written, non-computer implemented contract.



OVERVIEW: SMART CONTRACTS, LEGAL CONTRACTS, SMART LEGAL CONTRACTS

➤ Simple example of a Smart Contract:

- A blockchain stores retail securities transactions.
- A customer has a day order to purchase 200 shares of a certain stock at \$5 with the order expiring at the end of the market day (e.g., 4 PM).
- A block which stores data for this transaction accepts, from a remote data source, incoming real-time market price data.
- Logic associated with that block monitors the price of the stock.
- Once the price hits \$5, the logic sets the transaction to initiate and record the purchase. If the price never reaches \$5 by 4PM, then the logic sets the transaction data to cancel the order.



➤ A fundamental difference between Smart Contract and a Legal Contract:

- Enforcement mechanism.
 - Smart Contract automatically enforces a relationship specified in code: a monitored event happens, the code automatically invokes a predefined result (in prior example, when the stock price reaches \$5, 200 shares are automatically purchased and recorded in the corresponding block).
 - Smart contract contains no independent means of enforcement. It is simply executed when a predefined condition occurs.
 - Legal Contracts are not self-enforcing. They require intervention of competent legal authority: a court or an arbitral tribunal.

➤ Many aspects of legal contracts, which rely on exercise of subjective human judgement and insight (e.g., assessing good faith, reasonableness, force majeure, best efforts, etc.), are incapable of being represented by condition-based functions in code, i.e. are not deterministic, and may never be.

OVERVIEW: SMART CONTRACTS, LEGAL CONTRACTS, SMART LEGAL CONTRACTS

➤ Smart Legal Contract:

- It's a Smart Contract that articulates and is capable of self-executing on a legally-enforceable basis the terms of agreement between ≥ 2 parties.
- Considerably more sophisticated than a Smart Contract.
- Contains both “smart” portion (computer-executed code) and “non-smart” portion.
 - Computer executed code invokes automatic performance of a specific result based on the occurrence of a predefined event.
 - Non-executable portion contains all other contractual provisions agreed to by the parties involved (definitions, jurisdiction, force majeure, etc.) appearing solely in regular natural language text.

➤ Accord Project

- A non-profit open-source consortium aimed at transforming contract management and contract automation, which is developing an open, standardized format for Smart Legal Contracts along with a software ecosystem and open-source tools to digitize new or existing legal contracts, connect them to web services and deploy them to the cloud or a blockchain platform, the latter including cloud-based Blockchain as a Service (BaaS).
 - It views a Smart Legal Contract as both a human- and machine-readable agreement, that is digital, consisting of natural language and computable components.
 - Machine-readable component allows contract to be interpreted and executed by computers.
 - Human-readable portion ensures that signatories, lawyers, contracting parties and other are able to understand the contract.

OVERVIEW: SMART CONTRACTS, LEGAL CONTRACTS, SMART LEGAL CONTRACTS

➤ Global Legal Blockchain Consortium (GLBC)

- A non-profit organization focused on driving adoption and standardization of blockchain in the legal industry, with the larger goals of achieving data integrity, authenticity and privacy within the legal community and improving security and interoperability of the global legal technology ecosystem.
 - Comprised of over 300 large companies, law firms, software companies and universities seeking to collaboratively develop standards to govern the use of open source blockchain technology in the business of law.
 - Created communities of interest to provide members with a quick and convenient way to exchange ideas, ask questions, and provide input on a broad range of blockchain related topics.
- AAA executed a memorandum of understanding with GLBC in 2019. In 2020, AAA plans to spearhead establishment of a GLBC-sponsored ADR Community of Interest to explore “on-chain” and “off-chain” arbitration of blockchain disputes.

➤ What's driving the development of Smart Legal Contracts?

COST

- Increase efficiency through use of computer automation.
 - Reduce cost of contract development and maintenance far below current costs associated with traditional non-computerized contracts.
 - Eliminate need and costs to monitor execution and undertake legal enforcement as Smart Legal Contracts automatically self-execute and self-enforce.
- Smart Legal Contracts are still very much in the development phase, but are quite likely to experience rapid implementation, across wide areas of the economy, and evolution.

SMART CONTRACT EXAMPLES

➤ Securing US Electrical Grid

- Dec 2015, Ukrainian power grid was hacked with > 230,000 Ukrainians losing power for an afternoon.
- Hackers exploited a software vulnerability in a central control system to attack power plant.
- In US, power plants are fed data, from a centralized Supervisor Control and Data Acquisition (SCADA) system, to decide how much power to generate and where to send it.
- SCADA can be huge central point of attack by hackers, including malevolent state actors.
- US DOE awarded Carnegie-Mellon Univ. \$400K grant to develop methodologies to substantially harden SCADA by placing incoming data on Blockchain Ledgers.
- By doing so, an attacker would need to successfully hack not one, but due to distributed, redundant nature of blockchain ledgers, tens or hundreds of computers (based on number of nodes in blockchain) – a very difficult, if not practically impossible, task.

SMART CONTRACT EXAMPLES

➤ Protecting US Food Supply Chain

- Blockchain Ledgers can be used to quickly trace origin and provenance of contaminated foodstuffs back to their sources.
- Over the past few years, several instances of E-coli contamination have occurred in romaine lettuce causing illness and even a few deaths in the consuming public.
- Contaminated romaine originated from various growers in California and other states.
- CDC required considerable time, often weeks, and effort to manually trace contaminated romaine back to a specific producer, facility or region for remedial action.



SMART CONTRACT EXAMPLES

➤ Protecting US Food Supply Chain (continued)

- Each and every different point where possession changes hands along romaine supply line, starting at a grower and terminating at an endpoint (restaurant, grocery store) and at every intermediate point in between (distributor, wholesaler, shipper) can be permanently recorded, using Smart Contracts, as a separate transaction on a Blockchain Ledger.
 - May involve simple act of each person along the supply chain using a hand-held bar code scanner, coupled through a Bluetooth connection to a mobile phone, to read a bar code written on each incoming case of romaine where a remote computer establishes a corresponding block in a Blockchain Ledger.
 - Ledger provides irrefutable shared record of ownership, location and movement of that case along every facet of the supply chain, i.e. the entire history of the case from grower to endpoint.
- By simply examining the ledger, a regulator can pinpoint within seconds rather than weeks, a particular grower, facility or region thereby dramatically reducing the spread of contamination and number of instances of consumer illness, thus **safeguarding public health** and potentially **saving lives**.

SMART CONTRACT EXAMPLES

- Similarly, Blockchain Ledgers can be used to find sources of counterfeit or faulty goods by:
 - Tracing the origin and provenance of previously shipped goods, including investigating industry certifications,
 - Tracking restricted or dangerous components, and
 - Discovering storage anomalies.



THE TECHNOLOGIES

➤ Overview:

- A primer on Blockchains and Blockchain Ledgers
 - Depiction and description of a single typical block in a Blockchain
 - Depiction and description of interconnected (linked) blocks in a Blockchain
- A simple conventional four-node business network
- A simple four-node Blockchain network (with a distributed ledger)
- Blockchain operation
 - Generating a New Block for the Blockchain
 - Validity Determination of the New Block
 - Appending the New Block into the Blockchain
- Implementations of Smart Contract and Smart Legal Contract on the Blockchain

TYPICAL BLOCKCHAIN BLOCK

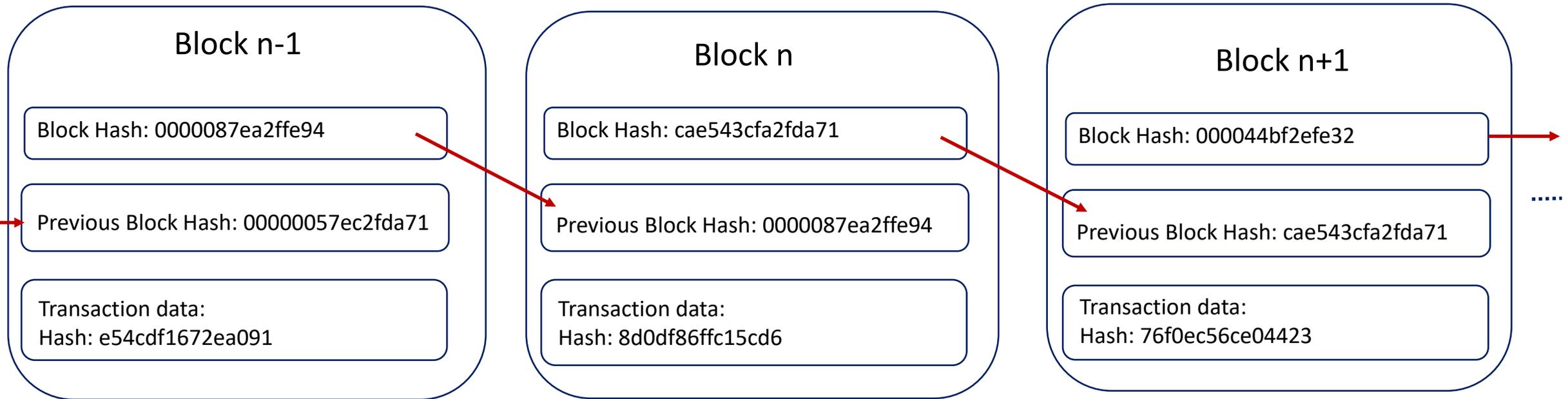
Block n

Block Hash:
0000087ea2ffe94

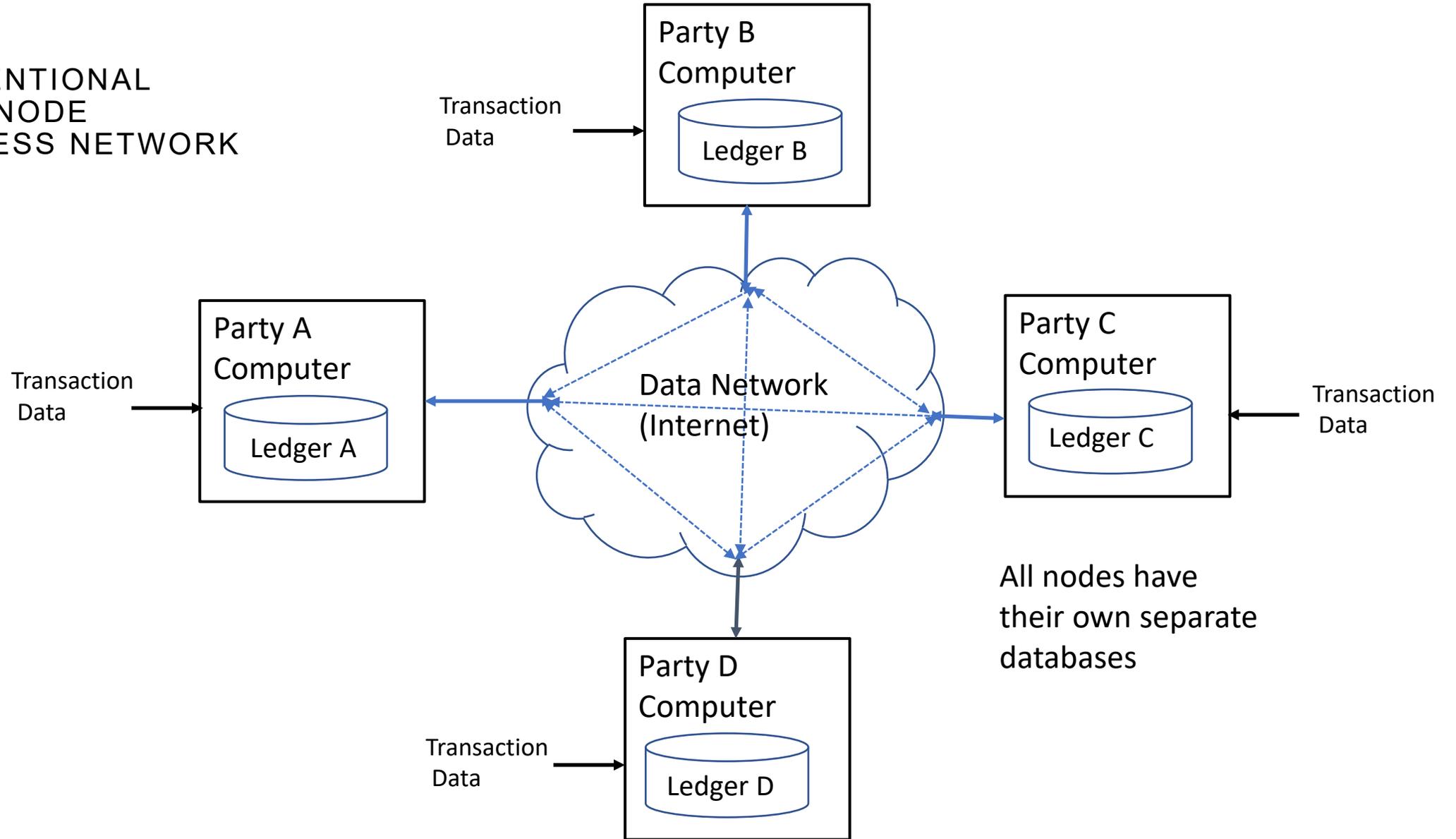
Previous Block Hash:
00000057ec2fda71

Transaction data:
Hash: fea359ad27c907d

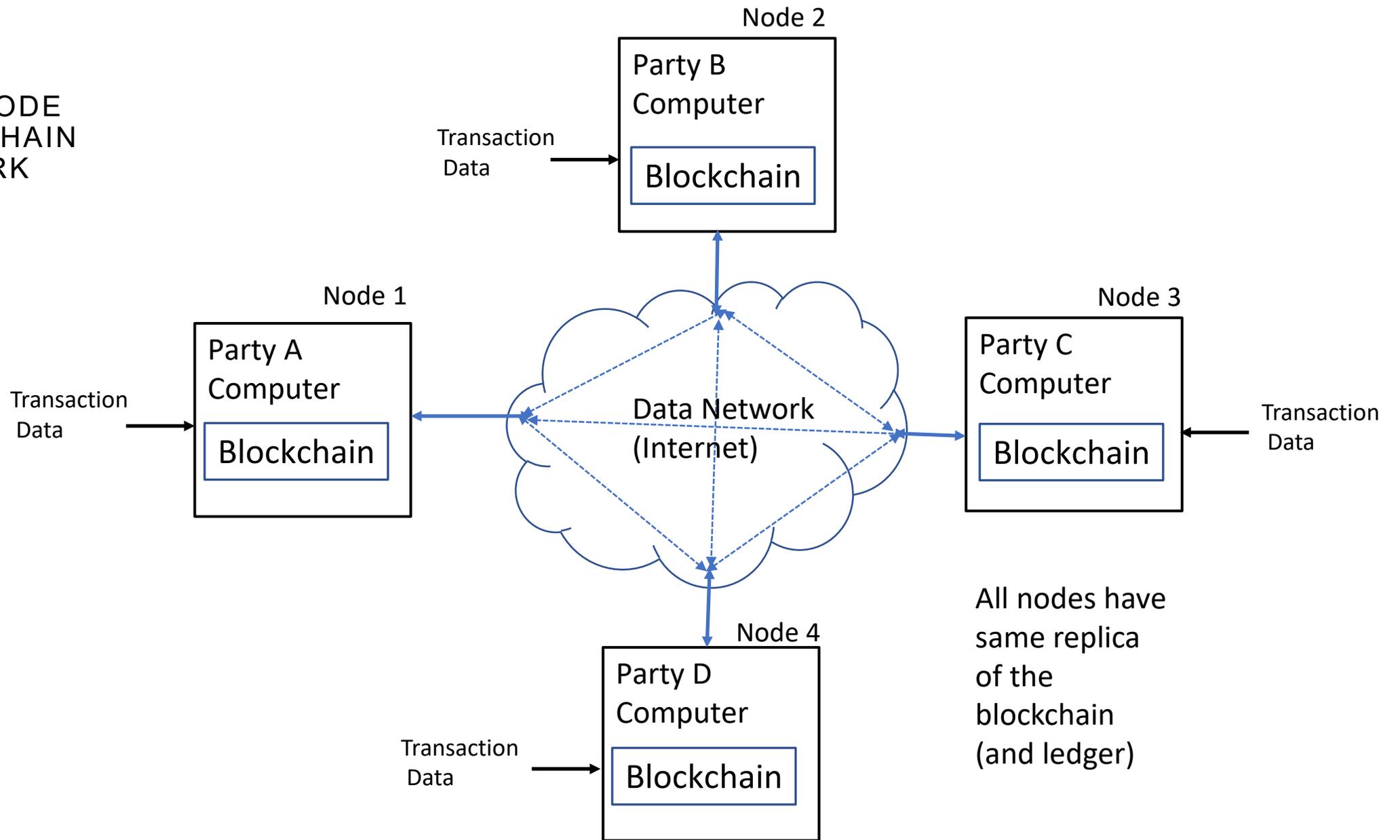
INTERCONNECTED BLOCKCHAIN BLOCKS



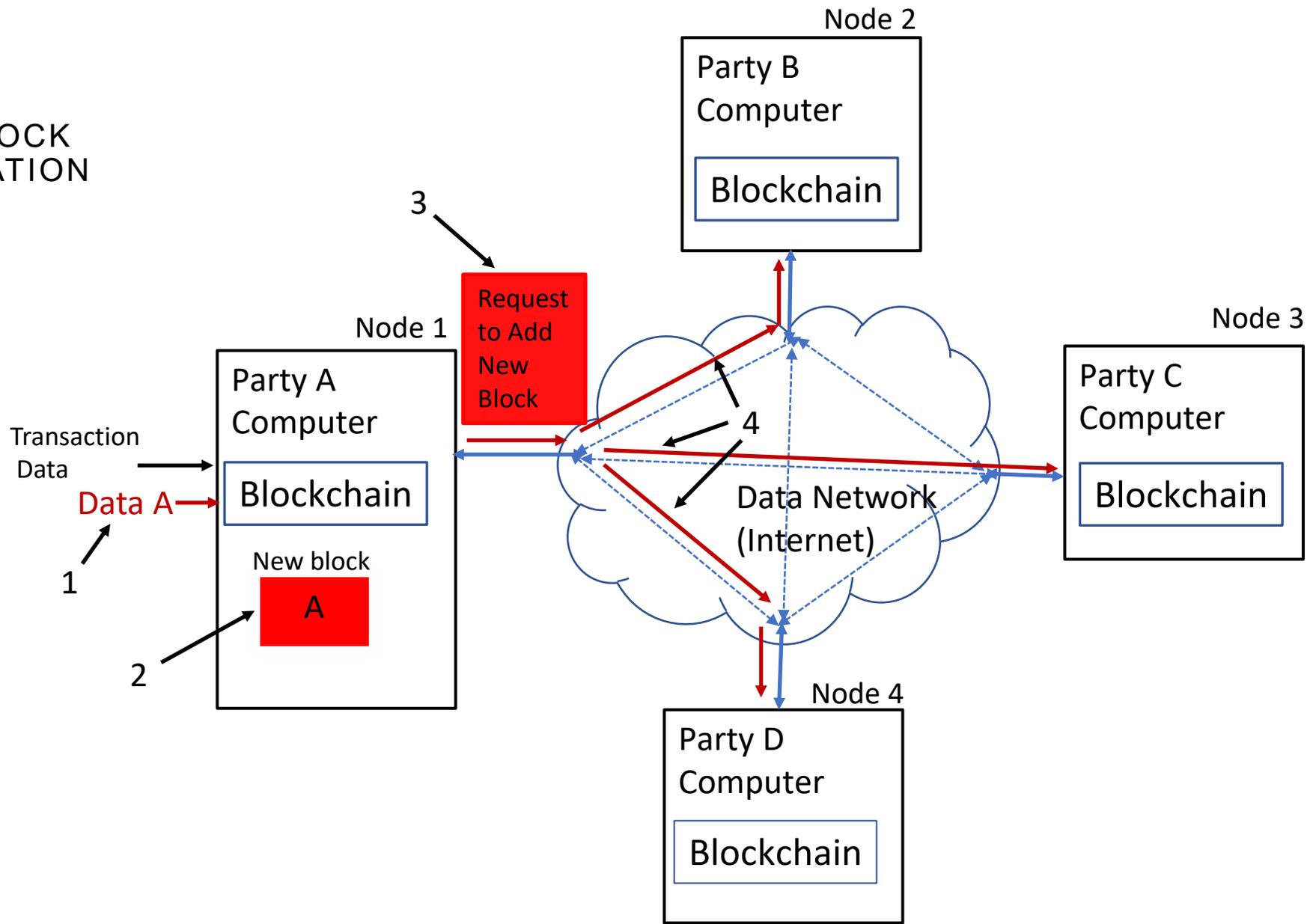
CONVENTIONAL
FOUR-NODE
BUSINESS NETWORK



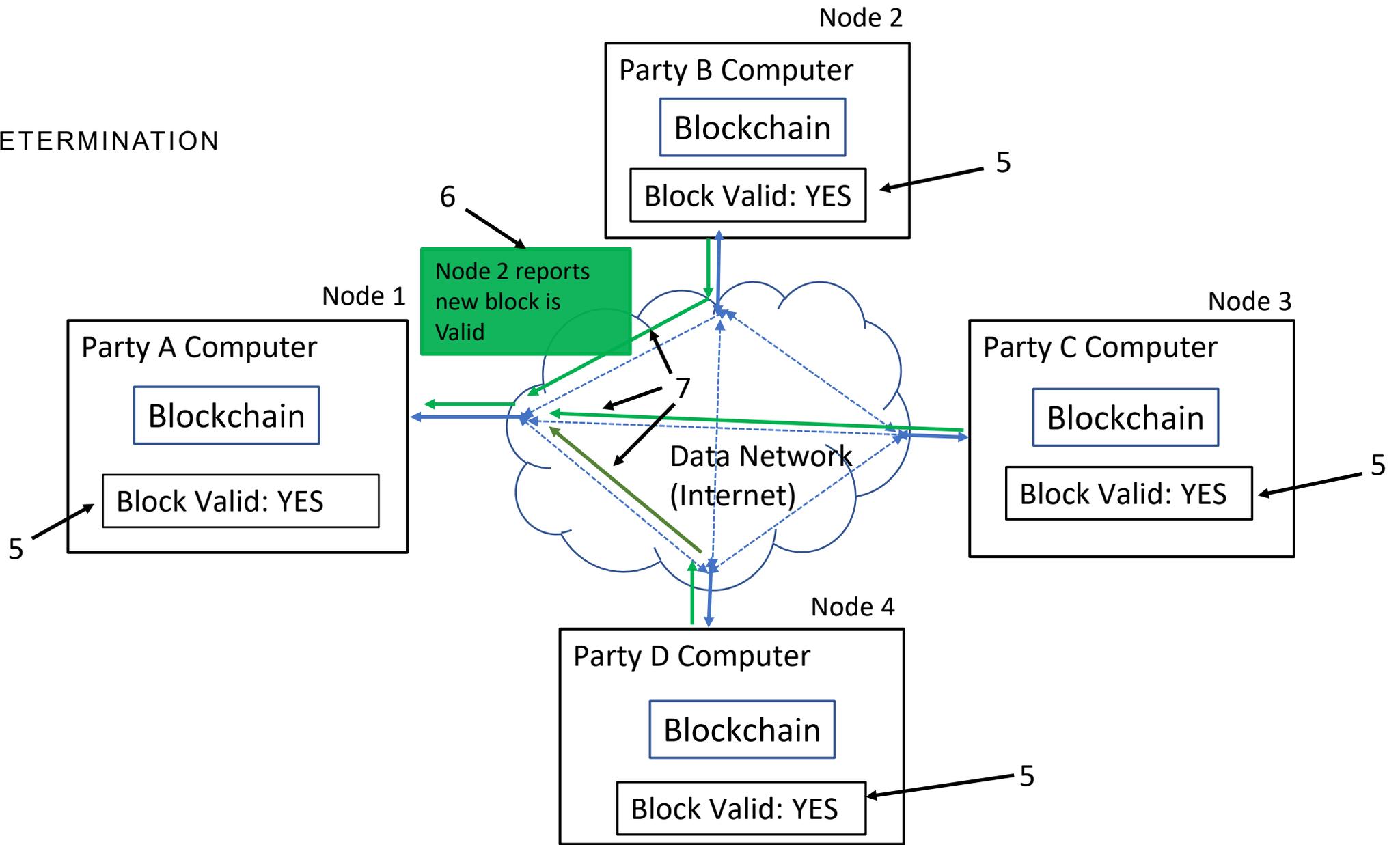
FOUR-NODE BLOCKCHAIN NETWORK



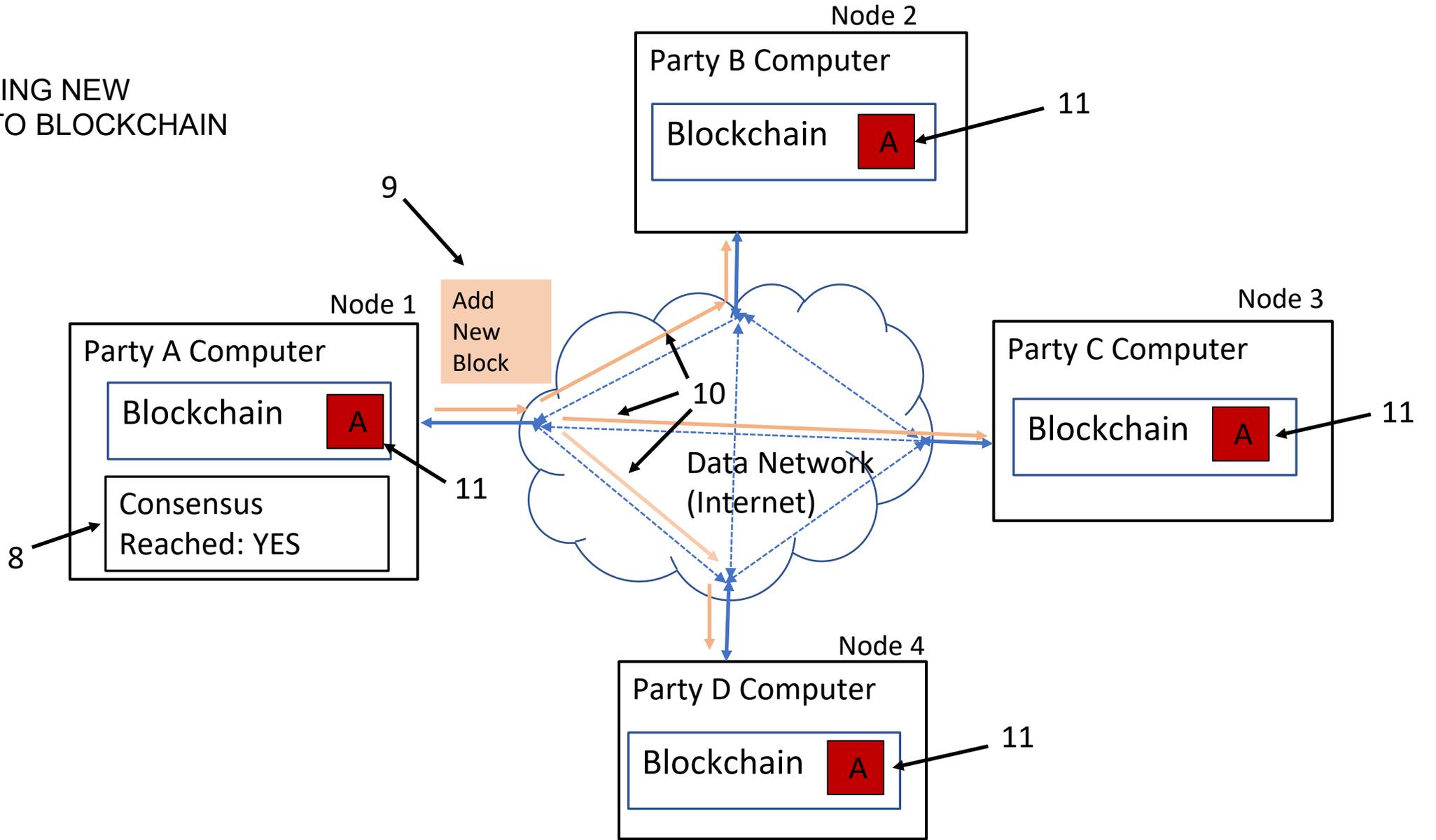
NEW BLOCK GENERATION

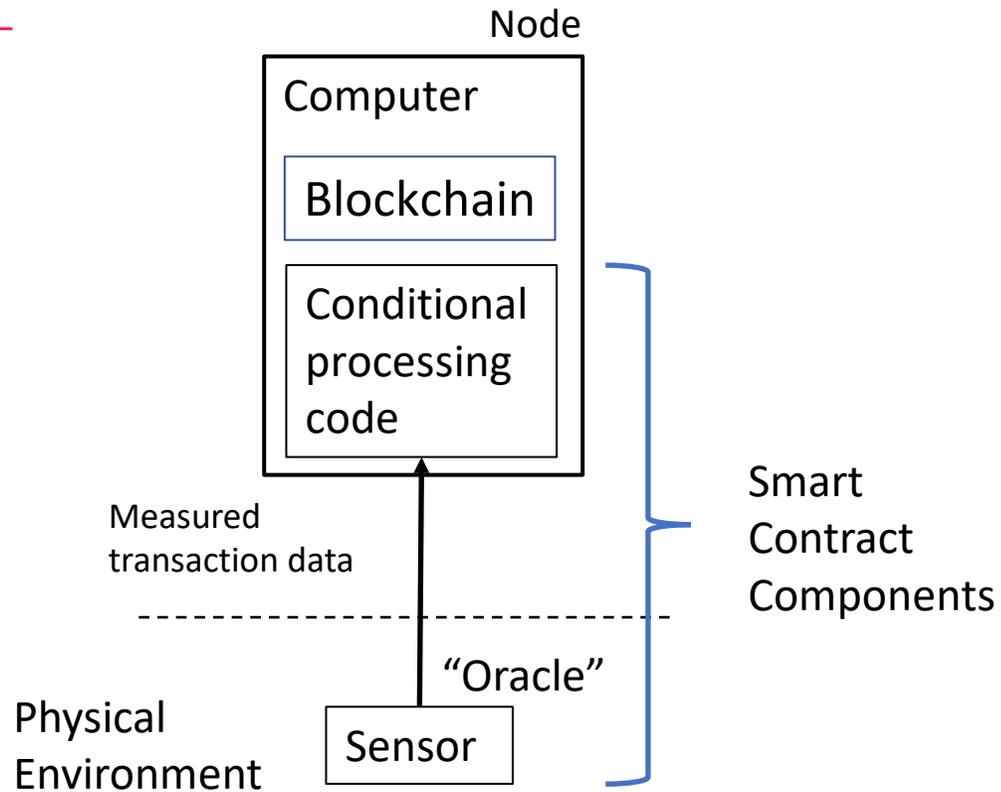


VALIDITY DETERMINATION

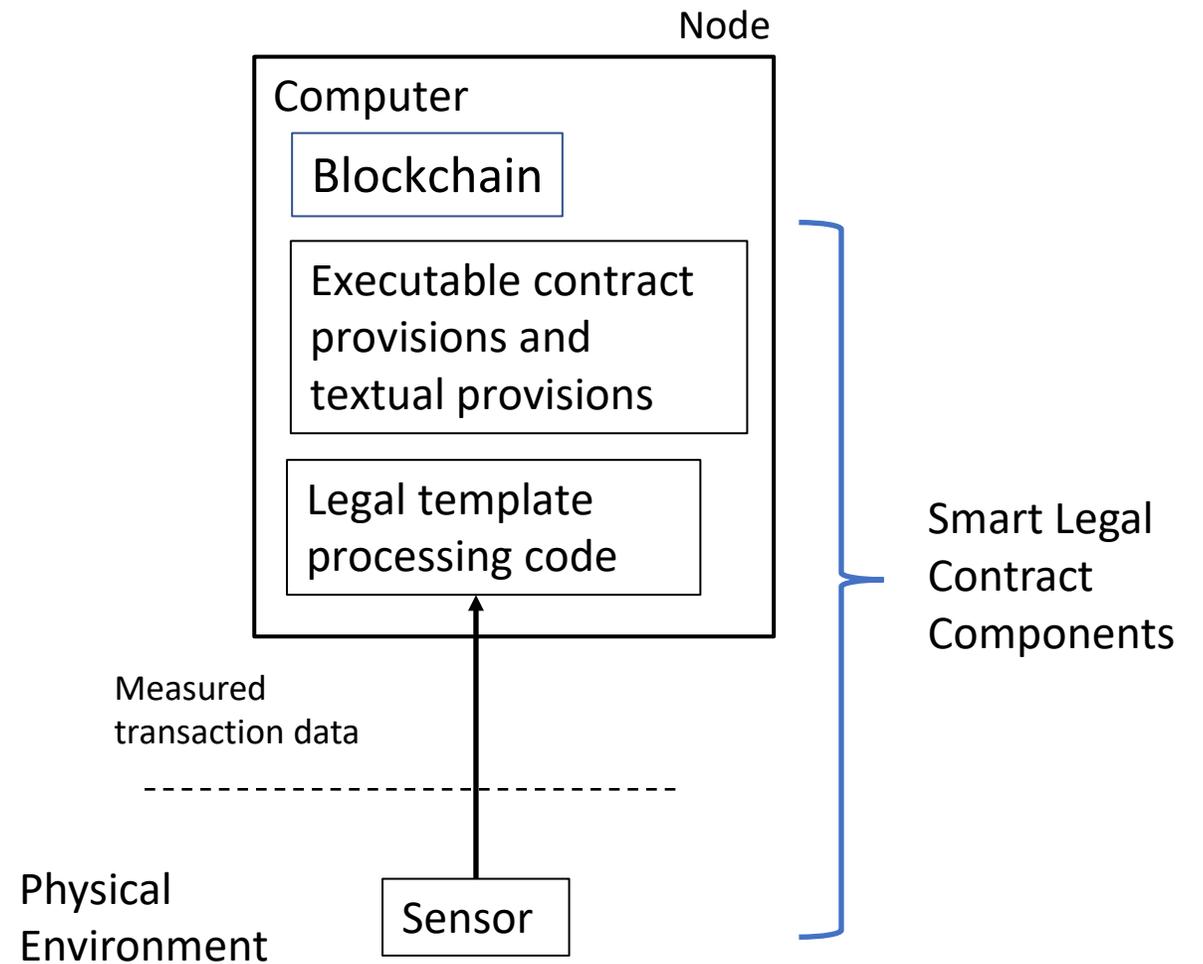


APPENDING NEW
BLOCK TO BLOCKCHAIN





Smart Contract Implementation



Smart Legal Contract Implementation

Legal Issues Involving Blockchain Ledgers, Smart Contracts and Smart Legal Contracts



LEGAL ISSUES – GOVERNING LAW

➤ Which Law Governs the Contract?

- Contract law is a matter of state law.
 - Governing substantive law is usually specified in the contract, e.g., substantive law of the State of New York.
 - If no choice of law provision exists, then the substantive law is typically that of the seat of arbitration set forth in the contract.
- Validity and arbitrability of the contract is based on applicable state law.
 - State law restrictions regarding the subject matter of a contract.
 - Ex. - greater cancellation rights beyond that permitted in common law on certain contracts in some states.



LEGAL ISSUES – CONTRACT FORMATION

➤ Contract formation requires:

- Offer
- Acceptance
- Consideration

➤ Possible Formation Problems with Smart Contracts

- Mistake or absence of mutual assent where the programmer of the smart contract does not properly code the intent of the parties due to:
 - Design Flaws
 - Coding Bugs



LEGAL ISSUES – CONTRACT INTERPRETATION

- Contract interpretation - intent of the parties is the most litigated dispute.

- In traditional contract, may look to Restatement (Second) of Contracts.
 - Determine parties' subjective understanding of the agreement.
 - Look to the meaning of controlling words in their ordinary context.
 - Interpret writing as a whole.
 - Consider parties' course of performance .

- In a smart contract.
 - Faulty/incorrect data input could substantially change the performance of the contract away from that intended by the parties.

LEGAL ISSUES – DEFENSES

➤ Frustration of purpose.

- In a traditional contract, a contract is voidable when certain unforeseen circumstances change *after* the contract was created, i.e. force majeure conditions.
- In a smart contract, how do the parties unwind a contract?
 - Performance issues that may frustrate the purpose of the contract.
 - Speed/latency – execution throughout the entire blockchain may be too slow.

- Speed/latency - some transactions can take a week as a result of:
 - Block size.
 - Blocks are batches of transactions that get confirmed and shared on the public ledger (blockchain).
 - Ethereum's block size is based on complexity of contracts run .
 - Block time – i.e. processing time.
 - Network congestion – i.e. capacity and throughput.
 - Transaction fees.
 - More complex smart contracts are charged higher fees (i.e. “gas rates”).
 - “Gas” is a unit of Ether spent on operating transactions on the Ethereum network.

➤ Jurisdiction

- Blockchains present unique jurisdictional challenge: where does a court have physical jurisdiction over a blockchain?
- Blockchain is a decentralized structure of information: stored bits effectively disbursed over many locations, particularly in a BaaS implementation.
- Can't reach out and touch "bits" – they have no physical structure.
 - Traditional measures of physical judicial jurisdiction, in personam and in rem, may fail.
- Hence, absent an agreement between the parties conferring jurisdiction on a particular court, no national/state court will likely have any physical jurisdiction at all.

➤ Inflexibility

- Smart agreements are inherently inflexible: “The Code is the Law”. What the code says governs.
- They are not designed for general use, but rather, due to decision-making predicated on executing predefined rules embedded in code, limited to situations that are completely deterministic.
- If smart agreements are to constitute “immutable, unstoppable, and irrefutable computer code,” that code must implicitly or explicitly declare what will happen as a result of every possible event that might occur during the life of the contract.

LEGAL CONSIDERATIONS– SMART CONTRACTS AND SMART LEGAL CONTRACTS

- In practice, many commercial legal contracts are incomplete.
 - It is nearly impossible or at least too costly for contract drafters to anticipate every possible eventuality; thus gaps and ambiguities arise in traditional commercial contracts that are often resolved through re-negotiation when a dispute arises.
 - No matter how deterministic a contract might seem, unanticipated events can arise. Are these simply ignored in a smart agreement?
 - Should a contract assume a default or error state pending human intervention?
 - This lies contrary to autonomous, self-executing nature of a smart agreement.
 - Should contract report this event to the blockchain, then reset itself once the event ceases and return to normal execution?
 - Currently, there is no definitive answer.
 - One approach, under development (CodeLegit), involves a library of codified provisions that principally integrate a traditional arbitral process into a Smart Legal Contract and allow any party to the contract to pause, resume, modify and end the contract.
- Legal disputes and potential liability can arise, under, e.g., negligence, product liability or breach of contractual warranties, where a contract operates beyond its design limits, i.e. under conditions that were not contemplated, and produces undesired results.

LEGAL CONSIDERATIONS– SMART CONTRACTS AND SMART LEGAL CONTRACTS

➤ Coding Errors

- Smart Contracts and Smart Legal Contracts are written by humans. Hence, they are prone to errors.
- As the complexity of code increases, errors (bugs) or just oversights become increasingly likely to occur and can lead to adverse effects and attendant legal liability.

➤ Examples:

- 2017 – A vulnerability in a popular cryptocurrency wallet (“Parity” which operates as a smart contract) froze \$280M worth of Ether (digital token used in Ethereum blockchain) it contained.
 - Vulnerability allowed users to change the code of the wallet and become owners of wallets that did not belong to them.
 - One person “suicided” the Parity wallet by accidentally triggering the bug, then deleted the wallet code and by doing so froze all Ether tokens contained in that wallet which prevented other users from moving funds out.
- 2016 – A known vulnerability in smart contracts used by The Distributed Autonomous Organization (“The DAO”) led to an unauthorized transfer of \$53M from The DAO.
- 2016 – National University of Singapore – researchers analyzed 19,366 Ethereum smart contracts and found 8,833 of them had bugs.*

*Loi Luu et al, “Making Smart Contracts Smarter”, *Proceedings of the 2016 ACM SIGSAC Conference on Computer and Communications Security*, Oct. 2016, p. 254-269, accessible at <https://doi.org/10.1145/2976749.2978309>.

➤ “The DAO” exploit: what happened when a code flaw is exploited

- What is a DAO?
 - It is a decentralized, (fully) autonomous organization (DAO) with no single leader.
 - It constitutes programming code that forms a collection of Smart Contracts written for and mostly running on the Ethereum platform.
 - A DAO is not owned by anyone. A group of people called “creators” write the Smart Contracts.
 - Once a DAO is started, it runs completely independently (self-autonomously) of any human intervention as long as it covers its survival costs and provides a useful service to its participant base.
 - There is typically an initial funding period during which participants add funds to a DAO through a “crowd sale.”

➤ “The DAO”:

- Early stage investment fund without a manager.
- Investors vote on which projects to fund and the Smart Contract does the rest.
- Advertised itself as a Smart Contract that is “borne from immutable, unstoppable and irrefutable computer code operated entirely by its members.”
- Its terms and conditions on its website in its “Explanation of Terms and Disclaimer” stated: “Nothing in this explanation of terms or in any other document or communication may modify or add any additional obligations or guarantees beyond those set forth in The DAO's code.”
- Launched on April 30, 2016 with a 28-day funding window.
- Was the largest crowd-funded DAO to that date: raised > \$150 Million from > 11,000 participants.

LEGAL CONSIDERATIONS– SMART CONTRACTS AND SMART LEGAL CONTRACTS

➤ What happened? (continued)

- Attack caused a dilemma to The DAO's participants.
- Some felt their funds had been stolen and allowing the attack to stand would discourage participants from making future investments in The DAO.
- Others felt that the transfer did not violate the Smart Contract code (it executed exactly as written) and should be “perfectly legal” under that contract.
- In July 2016, the Ethereum community voted to restore the \$ 53 Million to The DAO's investors. The Ethereum Organization then actually restored the funds by reversing the transfer.
- The DAO's creators were potentially liable, through a class action to The DAO's participants, for any loss that occurred through execution of the code and were implicitly accepting responsibility for events they were unaware.

LEGAL CONSIDERATIONS– SMART CONTRACTS AND SMART LEGAL CONTRACTS

➤ Moral of the story:

- **Coding errors are a real possibility.**
- Unanticipated results caused by **coding errors can lead to substantial liability** to those who write and/or administer Smart Contracts and Smart Legal Contracts.
- **Obtain liability insurance to protect against errors** – to the extent such insurance is available.



➤ Design Flaws

- Defects in underlying algorithm and/or design of the code itself that causes errant results.
- Raises same risk and extent of legal liability as coding errors.
- Insurance coverage, to the extent it exists, should be procured.



LEGAL ISSUES – CYBERSECURITY

- Security Breaches
 - Since 2017, nearly \$2 billion worth of cryptocurrency has been stolen.

- Smart contract vulnerabilities:
 - Protocol
 - Software client
 - Exchanges

- Breaches, whether caused by an individual hacker, a state actor or anyone in between, can give rise to legal liability to Smart Legal Contract administrators and, depending on the exploit that led to the breach, to cloud or other entities which hosted the code for the contracts.

- Failure to properly secure data in the smart contract can lead to liability.
 - New laws, like CCPA, include a private right of action, statutory damages and class actions for data breaches.
 - Federal and state breach notification laws impose reporting obligations.
 - Appropriate corrective action must be taken to remediate breach and prevent its reoccurrence.

LEGAL ISSUES - PRIVACY

- Information stored in a Blockchain Ledger, e.g. financial, medical or confidential consumer information, is subject to applicable privacy laws:
 - Health Insurance Portability and Accountability Act (HIPAA)
 - Gramm-Leach Bliley Act (GLBA)
 - California Consumer Privacy Act (CCPA)
 - EU General Data Protection Regulation (GDPR)
 - Other federal and state laws

To the extent these laws apply, design of Blockchain Ledger must fully comply with them.

- Many systems link aspects of a user's identity to his/her address.
 - New privacy laws (CCPA and GDPR) protect any information that directly or indirectly identifies an individual.
- Level of privacy/confidentiality can vary depending on whether the smart contract is stored on a public, private or hybrid blockchain.
 - Be mindful of privacy and security considerations.

LEGAL ISSUES – SMART CONTRACTS AND SMART LEGAL CONTRACTS

➤ Legal Enforceability – ESIGN and UETA

- "Electronic Signature in Global and National Commerce Act" (ESIGN) and the "Uniform Electronic Transactions Act" (UETA) were enacted to help ensure the validity of electronic contracts and the defensibility of electronic signatures.
- Provisions of each are very liberal to encourage electronic contract formation and use.
- ESIGN (Federal):
 - Effective since Oct 1, 2000.
 - Accords electronic signatures and records same legal status as manually inked signature and paper-based records.
 - Only affects medium through which contract is made, does not affect any substantive provision in contract.
 - Requires mandatory prior disclosure of e-contracting for consumer contracts, not in commercial contracts.
- UETA (approved and recommended by Uniform Law Conf in 1999 for state enactment):
 - Enacted in 47 states, DC, Puerto Rico and US Virgin Islands;
3 other states: Washington State, NY and Illinois have similar acts in place
 - Also addresses when electronic records have been sent and received.

➤ To extent contract formation occurs through a Smart Legal Contract, compliance with ESIGN and UETA may be necessary.

➤ Other State Actions

- States passed statutes in 2019 enabling use of Blockchain Ledgers in smart agreements or for use in storing certain records:
 - Illinois – May 29, 2019
 - Maryland – April 30, 2019
 - Nevada – July 7, 2019
 - Texas – June 10, 2019
- State established a taskforce to implement and expand blockchain technology in the state:
 - Florida – May 23, 2019
- States amended their state UETA to recognize blockchain technology:
 - North Dakota and Oklahoma – late April 2019
 - Nevada – June 7, 2019

Arbitration

The Only Viable Approach for Resolving Blockchain- related Disputes

Advantages, Procedural Considerations and Clauses

WHY ARBITRATION?

- Once blockchain technology achieves sufficient widespread commercial use, disputes involving blockchain technology will inevitably arise.
- What's needed: a fast, inexpensive, transparent and reliable arbitral system, with decentralized jurisdiction, i.e., across an entire blockchain, that renders ultimate judgments.
- Currently, there are no uniform standard arbitration procedures for arbitrating disputes involving Smart Contract and Smart Legal Contracts. These technologies are simply too new.



WHY ARBITRATION?

- Fully automated platforms (e.g., Kleros) are being developed and may ultimately prove useful in time-and cost-effectively resolving simple, straightforward disputes.
- But, many legal disputes require, to reach a "just" result, subjective analysis by skilled, knowledgeable human decision-makers familiar with the industry and commerce at issue, the technology and the underlying law, who render decisions not dictated reflexively by rules or algorithmic predictions but on their own wisdom built up through years of experience.
- An effective practical approach may well be for an administrator of a Blockchain Ledger to impose a contractual framework onto all participants through which each would assent as a condition for joining the blockchain. The framework would:
 - Specify a certain arbitral forum (e.g. AAA/ICDR or other institution) to which participants would bring their disputes for resolution and which would have sufficient power to enforce all resulting resolutions,
 - Define a specific process,
 - Set forth a governing rule set, and
 - Define or reference governing substantive law.

ADVANTAGES: CONFIDENTIALITY - PROTECTION OF PROPRIETARY INFORMATION

- Arbitration proceedings are a private process.
 - AAA staff and AAA neutrals have an ethical obligation to keep information confidential.
 - The parties have a right to disclose details of the proceeding, unless they have a separate confidentiality agreement in place.



AAA Statement of Ethical Principles”,
<https://www.adr.org/StatementofEthicalPrinciples>

ADVANTAGES: CONFIDENTIALITY - PROTECTION OF PROPRIETARY INFORMATION

- Maintaining privacy and security of personal data or confidential information is a responsibility shared by the AAA-ICDR, parties, their representatives and arbitrators.

- Internally, AAA has taken steps to ensure data security and privacy:
 - Implemented best practice policies, procedures and technologies to maintain security and privacy of customer and case information.
 - Now provides and requires mandatory cybersecurity training of all AAA staff and panelists.

- Externally, AAA will be requiring arbitrators serving on AAA and ICDR cases to address the issue of cybersecurity during the preliminary hearing with parties and/or their representatives.

- AAA published AAA-ICDR Best Practices Guide for Maintaining Cybersecurity and Privacy.

ADVANTAGES: SPECIALIZED KNOWLEDGE OF THE TRIBUNAL

- Smart contract disputes will likely include highly technical issues.

- Parties have the opportunity to select neutrals with appropriate technical and legal credentials.
 - Arbitration clause may require arbitrators to have experience in software development/coding.
 - See Jean Baker, “Arbitrators Provide Technical Expertise, Confidentiality”, *Corporate Counsel Business Journal*, January-February 2020.

- AAA and its neutrals can easily adapt the arbitration and related procedures to meet the needs of:
 - Parties, and
 - New types of dispute, such as smart contracts and other developing technology.

ADVANTAGES: AAA PROCEDURAL FLEXIBILITIES

- Formulation of Specific AAA/ICDR Rule Set for Smart Contract & Smart Legal Contract Disputes
 - An arbitral process is remarkably open-ended and relatively informal: **a blank canvas on which parties can collectively create the exact process they need and no more.**
 - Under the AAA Commercial Arbitration Rules, **parties are completely free and have total autonomy** to decide what specific steps they will use and when, and all related aspects, subject only to affording mutual due process.
 - These rule sets are intentionally very broad and quite malleable to provide parties with sufficient latitude to exquisitely adapt the process to fit the characteristics of their dispute.
 - **“Fit the process to the fuss”.**

ADVANTAGES: AAA PROCEDURAL FLEXIBILITIES

- In some instances, blockchain transactions can occur quickly.
 - An arbitral proceeding must be focused and rather short: reduced to its essential elements to minimize impact on ongoing transactions.
 - Useful procedural techniques:
 - Dramatically limit available time for the proceeding.
 - Counsel is time-constrained to sharply concentrate on the core issue(s) in contention.
 - If the time is very short, discovery and motion practice would be eliminated.
 - Discovery is often largest cost-driver in arbitration, its elimination can yield significant cost savings.
 - Consider emergency arbitration type proceeding as a starting point for process design.
 - Art 6 ICDR International Arb. Rules and AAA Comm. Arb. Rule 38.
 - Depending on its length, such a proceeding can yield an award in a few days to a few weeks after initiation.

ADVANTAGES: AAA PROCEDURAL FLEXIBILITIES

- Much, if not all, the evidence, and most, if not all, the arbitration submissions will reside on blockchain itself.
 - Arbitrators must have secure, read access to stored transactions on the blockchain and client software to access, read and copy transaction information from individual blocks along with whatever permissions, cryptographic keys and/or other credentials are necessary to properly use that software.
- Arbitrators and parties may choose to use web-based multi-site videoconferencing in lieu of traditional in-person or even telephonic hearing modalities.
 - Videoconferencing allows better assessment of witness credibility than audio-based teleconferencing.
 - Reliance on purely electronic modalities eliminates travel cost and time, thus furthering providing an effective, efficient and rapid proceeding.

ARBITRATION CLAUSES

➤ Arbitral Seat

- Seat provides the framework for the arbitration.
 - Award may be challenged in the courts of the seat.
 - Law of the seat provides the procedural law (lex arbitri) for the arbitration, including but not limited to:
 - Consent to arbitration;
 - Tribunal's authority, powers, and duties;
 - Conflict of law rules;
 - Costs and interest for award;
 - Form and validity of the award and grounds for challenges to the award; and
 - Powers of the court to hear disputes relating to arbitration.
- Because smart contracts are geographically distributed by nature:
 - Agree to seat in advance.
 - Consider whether:
 - Smart contract is legal and enforceable in desired seat and place of likely enforcement.
 - Disputes are arbitrable and accompanying awards enforceable.

ARBITRATION CLAUSES

➤ Consent to Arbitrate

- Important to establish consent to the arbitration agreement.
- New York Convention, Article II
 - Agreement to arbitrate in “writing” and signed unless in the form of letters/telegrams.
- Consent in a smart contract
 - Is code considered a writing?
 - Is execution of the code considered a signing of the agreement?
- One Approach – Use a Hybrid or Ricardian Contract
 - Cryptographically signed and verified document first introduced in 1995.
 - Human readable legal agreement that after signed by both parties is converted to a machine readable contract and executed on the blockchain network.

ARBITRATION CLAUSES

➤ Enforceability

- Parties should incorporate arbitral clauses, governance and/or automatic enforcement mechanisms to limit circumstances in which they will require judicial intervention or to facilitate enforcement of arbitral or judicial decisions:
 - Escrow provision where necessary.
 - Provisions to automatically stop performance when dispute occurs.
 - Provision for automatic referral of dispute to AAA/ICDR
 - Permit return of funds or other assets by providing access by Smart Legal Contracts to certain accounts funded by the parties.

ARBITRATION CLAUSES

➤ International:

- New York Convention – currently encompasses approx. 160 member states.
- Convention does not specify type or mode of arbitral award for it to be valid and enforceable.
 - Convention itself does not appear to contain any evident impediments to recognition and enforcement of blockchain-based Smart Legal Contract awards, authenticated in code.
 - Possible that such awards will be valid and enforceable under the Convention.
 - Ultimately, validity of these awards (e.g., set aside/suspended at arbitral seat under Art. V(1)(e) or against public policy of nation under Art. V(2)(b)) is a question of domestic law in member state in which enforcement is sought.

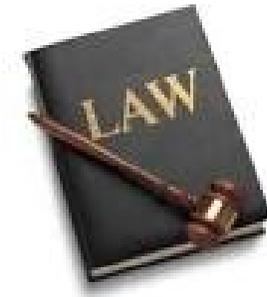
➤ Over time, some jurisdictions will be more willing to recognize and enforce Smart Legal Contract code-based awards than others.

- Presently, there is no existing jurisprudence anywhere.
- Remains to be seen, once jurisprudence begins to develop, just how open some jurisdictions will be to these novel awards, and to what extent and under what conditions.

ARBITRATION CLAUSES

➤ Governing Substantive Law

- Choice of Law clause permits parties to select whatever body of substantive law they want to govern their proceeding.
- Select substantive law of jurisdiction, preferably having a long-term, consistent, fair and well-established body of commercial jurisprudence on which parties can reasonably rely.
- NY law or California law are often selected as is English law.



ARBITRATION CLAUSES

➤ Incorporation of Arbitration Institution and Governing Rule Set

- Parties are also free to contractually select whatever institution they want (e.g. AAA/ICDR) to administer their arbitration and whatever rule set (e.g., AAA Commercial Arbitration Rules).
- Ad hoc arbitration should not be used as advantages in institutional administration outweigh any cost savings obtainable through self-administration, e.g.:
 - Existing panel of skilled arbitrators (having requisite arbitral, legal and technical expertise & experience).
 - Effective and efficient case management.
 - Financial oversight and management.
 - Separation and insulation of tribunal from discussions with parties concerning fees and financial status of each party.
 - Availability of institutional experience, guidance and assistance on procedural issues to the Tribunal and parties.

Thank you for attending!



QUESTIONS



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