For Komodo, the year of 2018 was a one of development, evolution, and growth. In the midst of a prolonged bear market, Komodo continued groundbreaking innovation after groundbreaking innovation. This yearly report will highlight all of Komodo’s progress during 2018 and give a preview into our plans for 2019.
February -- Komodo bridged the gap between ETH and BTC, making it the first project to accomplish a purely peer-to-peer atomic swap between a Bitcoin-protocol altcoin and an Ethereum-based ERC-20 token.

March -- Komodo created interoperability between 95% of coins and tokens in existence via peer-to-peer atomic swap decentralized exchange technology.

June -- Extended our delayed Proof of Work security mechanism to any UTXO-based blockchain via Komodo’s Blockchain Security Service.

July -- Komodo announced Multi-Chain Syncing and Cross-Chain technologies, further improving upon existing scalability and interoperability features.

August -- Komodo innovated a way to make Bitcoin-protocol coins Turing complete and released UTXO-based Smart Contracts, an incredible industry breakthrough.

November -- Komodo released Agama wallet on mobile for both Android and iOS. Komodo also integrated ETH and over 100 ERC-20 tokens to the desktop version, allowing users to store over 220 different coins and tokens in Agama wallet.

December -- Komodo successfully activated the largest-ever update to the Komodo code base, providing a huge technology boost to the entire ecosystem.

2018 was an exciting year for Komodo from a tech and innovation perspective, and I’m excited about what we’re planning for 2019; modular “smart” chains with custom consensus rules, a mobile-ready atomic swap DEX, a custom blockchain generator on AWS, and of course multiple protocol optimizations and improvements for our growing, open ecosystem. 2019 will be the year we drive focus and execute on our mobile strategy.

Kadan Stadelmann // Chief Technology Officer
Komodo’s Multi-Chain Architecture

Komodo is the blockchain industry’s only multi-chain platform. This unique multi-chain architecture allows every project that builds with Komodo’s tech to launch a customizable, dedicated blockchain with completely independent infrastructure and smart contract support.

While Komodo has always had this underlying multi-chain architecture offering customizable, independent blockchains, several developments in 2018 added even more benefits:

- **Blockchain Starter Kit**
  Includes a customizable independent blockchain with Bitcoin-level security, optionable modules, a series of white label dApps, a smart contract library, and a powerful and flexible custom consensus framework.

- **Crypto-Conditions Custom Consensus Framework**
  Allows developers to create tokens, use oracles, create fiat. Developers can also program their own decentralized applications.

- **Multi-Chain Syncing**
  Enables multiple blockchains to function as one, allowing projects to independently and linearly increase performance and scale-out on demand.

- **Cross-Chain Smart Contracts**
  Open lines of communication between blockchains created with Komodo, enabling cross-chain verifications and smart contract support.

- **7 New Custom Chain Parameters**
  Including a choice of hashing algorithm, the option of using VerusCoin Proof of Stake consensus rules, the option to timelock newly mined coins, and optional eras of different-sized block rewards.

- **Two Major Ecosystem Upgrades**
  One at Block 1 Million, which added Crypto-Conditions Custom Consensus Framework and UTXO-based smart contracts, and another at Block 1,140,409, which implemented the Sapling upgrade and increased block sizes.
Komodo’s Core Technology Pillars

Solving industry challenges serves as the foundation of our development

**Security**

The foundational pillar of the four, security is the most important aspect of any blockchain platform. Users on a decentralized ledger need to trust that the system is secure and immutable. Without strong security, other features are irrelevant.

**Scalability**

Blockchain technology must always encourage growth, not limit it. To that end, every business that adopts blockchain tech must receive independent infrastructure. In addition, projects must have the ability to scale out linearly on-demand, independent from the rest of the ecosystem.

**Interoperability**

Blockchains must not exist in isolation. Instead, the entire blockchain industry must be interconnected. Every blockchain must have the ability to exchange value or information with every other blockchain in existence. Cross-chain transfers should be seamless and efficient.

**Adaptability**

To meet individual needs and solve real-world problems, blockchain solutions must be adaptable and composable. Moreover, blockchain technology must constantly evolve to meet the needs of the ever-changing global economy. Updates and enhancements must be shared with all who have adopted the technology.

“

In 2018, we endured some of the most challenging market conditions the blockchain industry has ever witnessed. However, the Komodo team was able to continually deliver and exceed on the innovation front and have built the foundations for a future-proof platform. We are now well-positioned to attract more ambitious projects to our ecosystem and to truly offer end-to-end technology regardless of their needs. We believe 2019 will be another defining year for Komodo.

Ben Fairbank // General Manager
In 2018, hackers exposed the depth of security vulnerability in the blockchain space with a series of 51% attacks. While it was previously thought that 51% attacks were only a theoretical problem, a wave of successful attacks proved the threat is very real.

Here’s an overview of all the 51% attacks that have occurred in 2018:

<table>
<thead>
<tr>
<th>Coin</th>
<th>Date</th>
<th>Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verge (XVG)</td>
<td>April 4</td>
<td>~$1.1 Million</td>
</tr>
<tr>
<td>Monacoin (MONA)</td>
<td>May 14</td>
<td>~$90,000</td>
</tr>
<tr>
<td>Verge (XVG)</td>
<td>May 22</td>
<td>~$1.75 Million</td>
</tr>
<tr>
<td>Bitcoin Gold (BTG)</td>
<td>May 29</td>
<td>~$18 Million</td>
</tr>
<tr>
<td>ZenCash (ZEN)</td>
<td>June 2</td>
<td>~$550,000</td>
</tr>
<tr>
<td>Litecoin Cash (LCC)</td>
<td>June 4</td>
<td>Unknown</td>
</tr>
<tr>
<td>Flo Blockchain (FLO)</td>
<td>September 8</td>
<td>~$27,500</td>
</tr>
<tr>
<td>Aurum Coin (AU)</td>
<td>November 8</td>
<td>~$500,000</td>
</tr>
<tr>
<td>Vertcoin (VTC)</td>
<td>December 2</td>
<td>~$100,000</td>
</tr>
</tbody>
</table>

That’s 9 successful 51% attacks in 2018 for a total +$22 Million in losses.

In 2018, 6 third-party blockchain projects—GAME Credits, Kreds, Einsteinium, HUSH, SUQA, and GIN Coin—adopted Komodo’s Blockchain Security Service.

In addition, CoinBene, one of the world’s largest crypto exchanges, validated and officially endorsed Komodo’s Blockchain Security Service as the industry’s leading solution.

“We’re incredibly excited about this Komodo integration, as it offers an extra layer of security that very few other POW coins currently have. Our new Komodo notarization feature greatly reduces the impact of such an attack. Komodo notaries are running GameCredits clients and monitoring the network 24/7/365.”

Game Credits Foundation
Scalability

The term “scalability” received a lot of attention in 2018 but it isn’t always clear to what exactly the word is referring. In fact, there are two dimensions to the blockchain scalability problem.

- The transaction-processing capability of a blockchain or blockchain ecosystem.

- The ability of a blockchain project to scale out and grow beyond its current state.

In 2018, Komodo developed technology to resolve both dimensions of the blockchain scalability problem. Both solutions stem from Komodo’s unique multi-chain architecture.

With Multi-Chain Syncing, Komodo can link an unlimited number of blockchains together, allowing them to function as one logical chain. While every individual chain is processing transactions, all chains are sharing data so that the entire cluster works in unison.

Komodo is working with AWS as an Advanced Technology Partner to conduct a massive scaling test that will publicly demonstrate over 1 Million transactions per second.

It’s important to emphasize that this remarkable scalability is not just available to Komodo. Rather, it is available to every single project that builds with Komodo’s technology. This on-demand scalability allows anyone to start off small and grow with the needs of their project. Komodo’s multi-chain architecture is designed such that no project will ever find itself limited by Komodo’s technology.
Interoperability was yet another big theme in the blockchain industry in 2018. As things currently stand, the blockchain industry suffers from a lack of standardization across various blockchains and platforms. This means many projects are using a unique protocol, making it very difficult for them to transact and collaborate with other businesses, in or out of the blockchain space.

Komodo’s industry-leading atomic swap technology solves this interoperability issue. With an advanced atomic swap protocol that connects both ERC-20 tokens and BTC-protocol coins, more than 95% of coins and tokens in existence can be swapped directly with one another. All of these swaps are peer-to-peer, with traders keeping control of their private keys at all times.

Moreover, all independent blockchain generated with Komodo’s technology are fully interoperable. Any blockchain in the ecosystem can seamlessly conduct cross-chain transactions. At the same time, all blockchains built with Komodo are independent and not locked into Komodo. It’s the perfect balance of autonomy and connectivity.

While some projects have developed their own blockchain protocols—an extremely difficult and admirable feat—Komodo is actively working to unite the blockchain industry. Expect to see more progress on this front in 2019 as the Komodo Development Team finishes MarketMaker 2.0, the backend technology that powers Komodo’s peer-to-peer DEX.

“With the proliferation of platforms and protocols in the marketplace today, no single solution has emerged as the clear winner; consequently, no technical or process standards are yet in place. Likewise, operational silos keep some companies from either developing clear business plans around blockchain or collaborating with ecosystem partners for mass adoption.”

Deloitte // Tech Trends 2018 Report
Adaptability

Every unique situation requires a unique blockchain solution. That’s why Komodo allows every project to customize their own blockchain along 23 different parameters. After the blockchain is complete, developers can choose which modules they want to use. Komodo’s tech can be adapted to fit any circumstance or use case.

In September, at Block 1 Million, Komodo made a hard-forking update that added Crypto-Conditions and UTXO-based smart contracts to the code base. Keeping with Komodo’s open-source spirit, this technology was made available to every project in the ecosystem.

Verus Coin, a friendly fork of Komodo and an active ecosystem project, used that technology to solve the “Nothing at Stake” problem that has long plagued proof-of-stake blockchains. In return, and in the same open-source spirit, the Verus Coin project upstreamed a number of huge innovations with Komodo.

In December, at Block 1140409, Komodo made its largest upgrade ever, with most new features coming directly from Verus Coin. The new features added to the Komodo code base included the Sapling Upgrade, originally developed by the Zcash team, as well as an increase in block sizes from 1 Mb to 2 Mb.

This is truly a perfect example of what a thriving, open-source blockchain ecosystem looks like. As all parties develop and contribute new tech, the ecosystem becomes greater than the sum of its parts.

In 2018, we have seen great technological improvements at Komodo, from adding Crypto-Conditions and UTXO-based smart contracts, to MoMoM and the new dPoW confirmations feature, all the way to integrating Verus and Zcash’s Sapling upgrades throughout the ecosystem. We have added the features that users asked for and we will continue to do so.

Saddam Hossain // QA, Testing, and Support Manager
Business Development in 2018

Technology Partnerships
Komodo partnered with ValueNet Capital, a venture capital fund based in Beijing, to find projects to collaborate with and assess the risk and potential value in such projects.

Komodo started collaborating with the University of Texas at Arlington (UTA), providing funding for senior projects focused on blockchain tech and providing support to Dr. Sajib Datta for a new course he is teaching on blockchain technology.

Komodo became an Advanced Technology Partner with Amazon Web Services (AWS), which will allow Komodo to offer cloud-based blockchain services on AWS Marketplace.

Komodo added two new Strategic Advisors to the team: Michael Toutonghi, a former Technical Fellow at Microsoft and the Lead Developer of Verus Coin, and Dr. Sajib Datta, a Senior Lecturer in the Department of Computer Science and Engineering at UTA.

Komodo established a Strategic Technology Partnership with CoinBene, one of the world’s largest exchanges by volume. CoinBene is officially endorsing Komodo’s Blockchain Security Service to at-risk blockchains listed on the exchange. In addition, the partnership will explore opportunities for collaboration with respect to Komodo’s atomic swap technology.

Steps Towards Mass Adoption
Komodo partnered with Bitpanda, creating a fiat gateway to KMD for EU citizens and allowing anyone to buy KMD with fiat at over 400 post office locations in Austria.

Komodo partnered with Netcoins, making KMD available for purchase with fiat at over 171,000 locations in 42 US states, and three continents.

Komodo partnered with Cred and Peer2Krd, a crypto micro-investing app and a service that provides prepaid debit cards in exchange for KMD, respectively.

Komodo partnered with CoinFlip, CoinSwitch, and Peer2Group, providing many more fiat gateways to KMD and making KMD available at even more digital asset ATMs.

Establishing Revenue Streams
Komodo released the Blockchain Starter Kit, a package of turnkey blockchain solutions that makes adopting the technology easier than ever before. The Blockchain Starter Kit includes a customizable blockchain, optional modules, and a series of white label dApps. In 2019 we will be releasing a fully customizable blockchain generator web application on AWS marketplace.

Komodo made the delayed Proof of Work security mechanism available to third-party blockchains with Komodo’s Blockchain Security Service. The service is available for a small fee and provides BTC-level security to all integrated blockchains.

Komodo continued to integrate coins and tokens to both Agama, the multi-coin wallet, and BarterDEX, the peer-to-peer atomic swap exchange. In 2019 we will be releasing version 2.0 of our atomic swap DEX protocol with improved features, support for all coins and tokens, all in a mobile-ready package.
## Marketing Progress in 2018

### Community & Social Media

### 2018 Social Media Growth Statistics

<table>
<thead>
<tr>
<th>Platform</th>
<th>Growth</th>
<th>Subscribers/ Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>+87%</td>
<td>12K+</td>
</tr>
<tr>
<td>Twitter</td>
<td>+30%</td>
<td>94K+</td>
</tr>
<tr>
<td>Discord</td>
<td>+5.5K</td>
<td>members migrated from slack</td>
</tr>
<tr>
<td>Reddit</td>
<td>+425%</td>
<td>8.2K+</td>
</tr>
</tbody>
</table>

### Added to Real-Time Update Platforms

- Blockfolio
- Signal
- Delta
- CoinGecko
- Beam

### Content and Blog Posts

In 2018, Komodo published 45 blog posts, totaling over 40,000 words of content.

Komodo also established two repeatable content initiatives that had good viewership and positive impact on traffic. We plan on launching additional repeatable content to increase traffic and address new audiences.

**Tech Tuesdays**
Development and Technical Updates

**Five Bullet Fridays**
Weekly Summary of Key Updates
Marketing Progress in 2018

Search Engine Optimization (SEO)

680,000 unique page views over the course of 2018.

Komodo continued to optimize the Komodo website for best performance in search engine results, appearing in the top 10 for a number of valuable search queries:

Blockchain starter kit // blockchain security service // UTXO // atomic swaps // merkle tree // cryptographic hash functions // 51% attack prevention

Brand and Rebranding

Komodo started working with Ideas By Nature, an industry-leading blockchain agency, to complete a full rebrand as well as work on driving a modern UX/UI strategy. Since beginning the rebranding project, Komodo’s development team has accelerated the roadmap of two key products, and have widened the scope of the rebrand project.

In addition to visual identity, the launch of the rebrand will be dependent on completion of product UX/UI, and an updated roadmap with accompanying messaging. Starting February 2019, the Komodo team and IBN will start sharing previews of the rebrand status.

Visual Identity Status

- Typeface
- Color Palette
- Logo Mark
- Website

Messaging

- New Roadmap
- New Naming
- New Whitepaper

Developer Resources

- Documentation
- Training
- Dev Portal

UX/UI Status

- Product 1
- Product 2
- Design System
Marketing Progress in 2018

Public Relations

One of the key complaints from the community was the lack of coverage in the press and media. With the current state of the “pay to play” business model of traditional crypto-media outlets, the team has worked on building relationships with smaller outlets, analyst firms, influencers, and research groups.

As of January 2019, Komodo has partnered with the leading blockchain-focused PR agency, Wachsman. Mainstream media coverage will be a main focal point as Komodo gets ready to launch the new brand, products, partner programs, and solutions to the market.

Staffing / Resources

Running an ultra lean marketing team was an intentional decision for the team in 2018, and proved to be a sound strategy in an extended bear market. As a technology-first company, Komodo focused on driving development as a main priority, holding off on major marketing investments until the technology and products were complete. With the amazing progress of our development team last year, Komodo will begin shifting focus on allocating more resources for content, business development, and technical marketing roles in 2019.

We’re Hiring!

Qualified Candidates Can Email Their Resumes to marketing@komodoplatform.com

While the majority of the industry struggled in last year’s bear market, it was a blessing in disguise for the Komodo team. Without unrealistic market expectations, the team was able to become laser-focused on driving the evolution of the organization as a whole. It’s in these challenging times that it becomes more imperative to deliver innovation and real-world products and solutions. We listened to developers, customers, and partners to better understand how to build a truly open and customer-centric platform. Komodo remains committed to our original mission of accelerating the global adoption of blockchain technologies, and we’re excited to deliver on that promise in 2019.

Steve Lee // Chief Marketing Officer
What to Expect from Komodo in 2019

All dates are subject to change

1H 2019

▪ Alpha release and testing of version 2.0 of our open atomic swap protocol
▪ Release of version 1.0 of Komodo’s Custom Blockchain Generator on AWS marketplace
▪ “Evolution” Campaign to launch new roadmap, whitepaper, and messaging
▪ Komodo 2.0 Technology and Rebrand Launch
▪ Annual Notary Node Elections
▪ Continued development of Custom Consensus Framework
▪ Launch of KMDCC interlinked chain to support zero-knowledge privacy, new Crypto-Conditions smart modules, and other test features and solutions.

2H 2019

▪ Release of Komodo’s Developer Portal to support increased participation and involvement of Komodo community
▪ Increased usage of AWS Marketplace to support Komodo products and services, including independent blockchains and custom consensus modules
▪ Release of GUI for a fully mobile-ready wallet/DEX hybrid

Join the conversation @ komodoplatform.com/discord