

**RECAP OF AMA WITH DMITRIY GERASIMOV
(CEO / CTO OF CELLFRAME NETWORK)
HOSTED BY UNISWAP DETECTIVE
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Uniswap Detective

1) Firstly, just for some of the newer community members. Can you please introduce yourself and then give an overview of the structure and number of team members working on CellFrame?

Dmitriy Gerasimov

Hello everyone, my name is Dmitriy Gerasimov I'm Project Lead (CEO+CTO) of Cellframe Network project. I'm working with the team that now is about 20 members, key of them are present on our site. Its broken up by the departments: marketing, development, HR department, QA & Support team, design department, maintenance & security team, cryptography group, and few more smaller groups

Uniswap Detective

Moving on to the tech side.

2) It's understood the technology for CellFrame has been in development since late 2017.

What was the inspiration to build CellFrame and can you give an overview of the unique selling points for the platform which set it apart from other layer 1 protocols?

Dmitriy Gerasimov

I was working deep with network protocols for multi media streaming software, appears few issues related with cryptography, customers wanted to have custom encryption realization without 3rd party libraries. I dive deep into the subject and found that's RSA and soon ECDSA became not secure because of quantum computers development progress. Because of my physicist background I was tracking this progress so I've realized this threat before its became popular. Can't say that I was first, when I start to investigate I found few cryptography organisations that's working with Post Quantum cryptography (quantum protected). So, in the beginning I just taked few ready realization.

Until I was in all this, one of my developers was looking on this and said - "Man, when the Quantum Apocalypse starts you'll need just upgrade the software, but what about blockchain users? They can't just upgrade their software because their digital signatures its only what proofs their moneys ownership". BTW soon he left us because of personal reasons but this idea got me to start to develop protocol that names today Cellframe Network. So, what it has except quantum proof digital signatures?

- 2 level sharding (reduce storage size requirements for node)
- Peer-to-peer intershard communications (removes TPS limits)
- Conditioned transactions (moves typical token operations from smart contracts to ledger, dramatically reduces gas spends and gives lot of new abilities)
- Service-oriented infrastructure, including low-level service API. Gives truly distributed applications (t-dApps)

- Multi protocol variable digital signature format (allow to add new crypto protocols on the fly)

They are 5 most important features, there are more, more details on our site cellframe.net

Uniswap Detective

So there's a future quantum threat which many are not planning for and that was the beginning inspiration. From there, you've built out a blockchain from scratch to fix not just that but many other weak points!

Something interesting was in one of CellFrames recent blog posts (Multi Chain Bridge Cellchains), you mention the implementation of distributed key management and multi-party computation.

Can you briefly explain what this is and how cellframe will utilize it?

Dmitriy Gerasimov

huh. Looks its three different things. Lets start from the bridges

Bridges. Its the central subject of interchain communications. We have different types of interoperability: native and non-native. And different modes: direct and trusted.

Native/NonNative its about Cellframe based or not. Direct and Trusted that's about type of proofs: if all the ledger operations on the bridged blockchain are checked by bridge node or not? If all - its direct, if it trust smbd its trusted and it also could have different subtypes.

Usually when we say CellChain we talk about native direct bridging, we call it Cell Backbone - set of CellChains that's are included in the network list installed by default Cellframe node. Every network fit at least one slot (may fit two), 1 slot means TPS limit on about 50k TPS (yes we have no TPS limits for the whole system and inside the CellChain, but between networks there are limits). Numbers could differs and they exactly became to grow after mainnet release and when we'll do all the measurements with the real nodes hardware.

Distributed key management its just the way to store public key hashes on the blockchain. Smth like distributed CA.

and multi party computation is the API for smth like EVM (we'll have both EVM and WASM based smart contracts), also it includes ML-training t-dApps and few more tdApps services API that's we're planning to implement.

Uniswap Detective

Really interesting stuff, thanks for the detailed answer!

3) Network consensus has been a hot topic lately with talks surrounding energy consumption and network security (POW vs POS).

What will the CellFrame network consensus be on mainnet and why have you chosen this?

And will each cellchain have the same consensus as the core network or will this be configurable?

Dmitriy Gerasimov

Each network (CellChain) has also different subchain types. First is zerochain, it has not transactions its only for governance, anchoring and few more operations. Zerochain is not sharded and because of security its planned to be PoW based.

The rest blockchain datums like transactions, smart code, key fingerprints and etc are working basing on PoS consensus and that's 99% of all blockchain activities.

So we can say that's we have 99% of PoS consensus and 1% of PoW. In future possible to switch on 100% PoS or smth else.

About cellchain consensus its their own business, just its need to be compatible with Cellframe Network to make able other networks nodes to check their data.

Uniswap Detective

4) CellFrame is implementing a similar tech to Polkadot or Kusama's parachains, labelled CellChains.

Can you give an overview on how this will work in simple terms and what was the reasoning behind this decision?

Dmitriy Gerasimov

Main reason is that's we have limits for interchain communications because every atomic swap need to be checked lot of time by different bridge nodes. Because of this we have the limitations for number of CellChains that's could act same time with direct proofs of correctness.

So, we decided not to reinvent the wheel and started to implement a similar tech.

Uniswap Detective

Makes sense, it's a great framework to use for this solution.

Many have asked how it would be possible to run CellChain auctions or sales prior to your mainnet. Can you elaborate on how this process will work?

Dmitriy Gerasimov

Yes, we prepare auction/sales to start as soon as possible on Ethereum blockchain. It planned to be the set of smart contracts that will lock the project tokens, CELLS and manage NFT related with slot. This all would be bridged to the mainnet when it started but after the launch this bridge continue to work. Governance tokens, CellSlot NFT and locked CELL/Project Token will be able to be swapped both direction.

More details will be published later when we bring up the bidding site. Its in development right now.

Uniswap Detective

Perfect!

In terms of the demand for cellchains and building on Cellframe. What is the teams plan over the coming months to attract developers leading into (and after) mainnet and throughout the auction periods?

Dmitriy Gerasimov

This month and the next one we focused on documentation, interoperability API and direct contacts with developers. There are lot of teams that's already interested a lot, right now they're waiting for docs, API, some tech sites and etc. When we deliver that I believe we'll see lot of new faces in our community

Uniswap Detective

Great to hear there's already a high level of interest and connections being made!

It's been suggested that KelVPN is the first CellChain planned which will occur via a CellFrame loan. Why do you think KelVPN will be a good fit for the CellFrame ecosystem?

Dmitriy Gerasimov

Because it has ready product so its most finished Cellframe-based project. Also we're planning to give slots only to one VPN project, so the rest Cellframe-based VPNs would require KEL to communicate with Cellframe Backbone ecosystem. KelVPN is planned to be the traffic exchange marketplace between different VPN brands. So its very important to have it on the Backbone.

Uniswap Detective

Great, I understand will also be a sort of privacy hub in future to facilitate ETH mixing similar to Tornado cash and for stable coin mixing.


5) There has been some talk surrounding Demlabs and their involvement in the CellFrame ecosystem.

Can you please explain the history of Demlabs and what role it will play in the future of CellFrame?

Dmitriy Gerasimov

Yes we have collaborations with mixers, including ZK mixer projects

Uniswap Detective

Such as your partnership with ZKCHAOS 

Dmitriy Gerasimov

Right!

Demlabs is the software outsource company that I found at 2007 year. Right now don't rule its directly, 100% busy with Cellframe but some outsourcing it still doing, also Demlabs has some plans with enterprise blockchain implementations.

In feature I see it like profitable Ethereum Foundation that earn monies on enterprise outsource and support the Cellframe Network community, helping to grow up new Cellframe based projects and other things.

Uniswap Detective

Being able to have this to fund developments and as sort of a foundation makes for a far more sustainable outlook long term, not just in a bull market but allowing to be able to build through bear market also.

Dmitriy Gerasimov

We've survived a crypto winter so we know how important it is

Uniswap Detective

Many didn't, so that proves it's worth!

6) As per the community request, all VC tokens were distributed early, and the team liquidity was pulled in order to conduct buy backs with the remaining ETH.

What was the thought process behind this move and looking back, do you believe it was the right move?

Dmitriy Gerasimov

We had lots of requests to do this from the community. Also market became red so we had to do smth with situation when most of VCs were not to hold for a long term. They also were asking for that. Everybody asked, we listened and found that its good idea. But through lot of talks and disputes, cant say it was easy decision but I believe it was the right one.

Uniswap Detective

Understand it would not be an easy one!

I think the short term pain but to ensure the distribution was decentralized and with the community was the right move.

It's a shame that some of the VC's interests didn't align but that's essentially in the past now allowing the community to look forward to the upcoming milestones in Q3/Q4 and the token burn on 565,000 CELL to low the supply.

7) Successful layer 1's top priority should always be the security of the network and decentralization.

What are your plans to ensure the code is secure and CellFrame is highly decentralized?

Also, what are the target numbers for nodes and validators by mainnet and do you have an estimation on what the requirements will be for this in terms of the number of CELL required for each?

Dmitriy Gerasimov

From the August we start internal pentests, at October its planned to open bounty program for community ethical hackers. Decentralization will be seen from our release whitepapers with consensus details, anchoring strategy, requirements for members, security codex and more documentation that's we're working on right now. All the numbers will be in it around our internal pentests beginning

Uniswap Detective

Great, looking forward to seeing the requirements as I and many others are interested to set up our own nodes.

8) The roadmap gives a clear outline of your objectives until 2022.

Can you give an overview of any upcoming milestones the community should be looking forward to in the short term and if you expect any delays on the overall roadmap/mainnet for Q4?

Dmitriy Gerasimov

I wonder to not have a delay. Maybe some features will be moved on after launch period but the mainnet itself should be running on time. Maybe with some temporary limitations like PoA+PoW for the first generation of zerochain miners. Maybe not. Depends from situation with development. We have Plan B, Plan C and Plan D let's say.

Nearest objectives are to finish with cellframe node 4.4 version, Cellframe SDK 2.9 version and first public builds of Cellframe Dashboard - super-applications for Cellframe Network that's includes Wallet widget. After that we'll focus on SDK 3.0 release with node 5.0 built on it.

Node 5.0 it will be the first release-candidate, mainnet is planned to be running first on 5.x branch.

Uniswap Detective

Good to hear everything is on track for mainnet and contingency plans are in place if not to ensure it runs smoothly either way.

Just a couple more questions and then we will open to the community 🤝

9) As it was one of the main inspirations to start Cellframe and Quantum resistant tech is something only a small handful of projects are focusing on.

What is the importance of this added security layer in simple terms?

And once CellFrame is live on testnet/mainnet, how can it be verified as Quantum resistant?

Dmitriy Gerasimov

In simple terms it means that the wallet created right now will not be stolen by quantum hackers at nearest 3 – 5 - 10 years.

To be sure that its Quantum resistant we've selected algorithms from NIST candidates list for new Post Quantum cryptography standards. Because we don't know who will be the best, we've added ability to use more then one algorithm per one signature, multi algorithm signatures could be found in our sources that's are published on GitHub as well as our PQ signatures realizations with URL of its origin. So if anybody interested he could check it and verify.

Uniswap Detective

So, it's something that will likely be a threat in the pretty near future and it may be hard for other layer 1s to pivot if you don't plan far in advance like Cellframe has done.

10) Lastly, can you give a long term overview of your outlook for CellFrame and the main target market for the project (DeFi, enterprise businesses)?

And what sort of ecosystem do you envision in order to produce the desired network effects of a thriving ecosystem which gives Cell as the native token utility/demand?

Dmitriy Gerasimov

In far future I see Cellframe ecosystem as intermediate between different blockchains. Because of multi algorithm signatures we're not limited to make trustless bridges with any other blockchains. Summing with other Cellframe benefits I see this protocol as a new kind of blockchain standards, like layer 0 protocol but also includes layer 1 and even layer 2 possibilities.

As layer 2 protocol we want to involve in DeFi projects, connect them together, reduce gas fees and make new platform for enterprise blockchain driven solutions. Here our collaborations should help with it.

CELL as native token will have more and more purposes, with growing ecosystem, releasing new truly dedicated services and growing the total number of Cellframe Network members.

Uniswap Detective

The high level and ease of interoperability will be key in the multi chain future as many have been saying.

Striving to focus not just on DeFi in order to give utility through liquidity, lending, borrowing etc but enterprise solutions also is great to hear.

Thanks for your detailed replies Dmitry, it was extremely interesting having a chat, much appreciated.

Honestly, kind of wish we had a voice AMA as I would loved to have elaborated much further on your answers! Maybe next time we could do this.

I think there was a lot covered today but we can open it up to the community to see if there's anything further?

Dmitriy Gerasimov

Thank you too for the interesting questions. Yes, lets open the chat

Community Member

Cell will be listed in important exchange (CEX) in the next months?

Dmitriy Gerasimov

It could happen any moment, really. Unfortunately can't say when exactly.

Community Member

Amazing AMA!

Can you tell us more about the bridge to bsc and the listing on pancake swap? And the reasons for this?

Dmitriy Gerasimov

Poly bridge is working for BSC-ETH exchange, with Pancake swap its also planned to be as soon as possible

Community Member

Will there be open public partnerships with other large ecosystems?

Dmitriy Gerasimov

Yes, we're planning to bridge with all the most used blockchain protocols

Community Member

Defi and Nfts are two hot trends, so what do you think about these two trends and in the future, whether #cell will become a part of Defi or Nfts?

Dmitriy Gerasimov

Depends from what you want to measure. Right now we are on test phase 1 where we've measured general CPU and memory load for transactions processing. Its about a few seconds for thousands for them for one week core. I believe we'll have up to 10k TPS per one core, at August we're planning to launch test phase 2 where we could measure TPS and other properties.

Community Member

I just want to take a moment to thank both Dmitriy for his time an excellent insights today and Uniswap Detective for doing such a professional job hosting today's AMA and to all the unsung heroes working on CELL in the background I want you to know that we appreciate you all.

Thanks so much this was fantastic, I hope to see it again soon.

Dmitriy Gerasimov

Thank you for your support!

Uniswap Detective

Thanks for your time Dmitriy!