STONEBLOCK

The Future of e-Government is Now

Data Growth Model

Stoneblock

Neocapita's Stoneblock is the world's first digital registry on the blockchain, and its more than a concept. It is working software. Stoneblock provides a secure way of rapidly deploying an e-government platform that links citizens to their government-verified and -issued "documents of value". This improves transparency, fosters trust between citizens and their governments, and reduces risk and compliance costs for the government.

Stoneblock delivers a number of key benefits over existing secure federated database e-government infrastructure:

1. Stoneblock enables better system interoperability across a government or industry by using a private permissioned blockchain to share data without compromising security or requiring costly, fragile, and time-intensive system-to-system interfaces or messaging interchanges.

2. Stoneblock reduces the risks associated with data custody by removing the centralised target of hacking. Using cryptography and by distributing centralised data stores, data loss for all intents and purposes becomes virtually impossible. With lower risk comes lower costs of compliance.

3. Stoneblock lowers the cost of data interoperability, and so improves transparency, allowing data to co-exist separated by cryptograhic partitions. As we prepare for implementation of the General Protection of Data Regulation (GPDR), Stoneblock provides a solution.

4. Stoneblock makes it easy for citizens to use their "documents of value" in the economy and this makes the economy more efficient and reduces opportunities for fraud and deals gone wrong. Putting a citizen's "documents of value" to work increases the perceived value of the government at a time when mistrust of institutions is at an all time high.

How Stoneblock Scales

With every citizen's documents stored in a single data structure, the Stoneblock blockchain, it is natural to ask how will this scale? We have modelled a few basic parameters taken from the typical use cases we have encountered over the course of hundreds of hours spent with customers in government agencies. The models highlight the storage capacity required and how it grows over time. There must be sufficient storage on each node to hold a complete copy of the ledger of transactions so these data growth models are useful when provisioning computing resources in the government or institution.

Stoneblock is unique in that it stores the key criteria of the documents of value along with a cryptographic hash of the information. This means that Stoneblock uses more storage than an application that only holds just a hash of the information. We use this method to avoid centralised document storage and dependancies on centralised infrastructure.

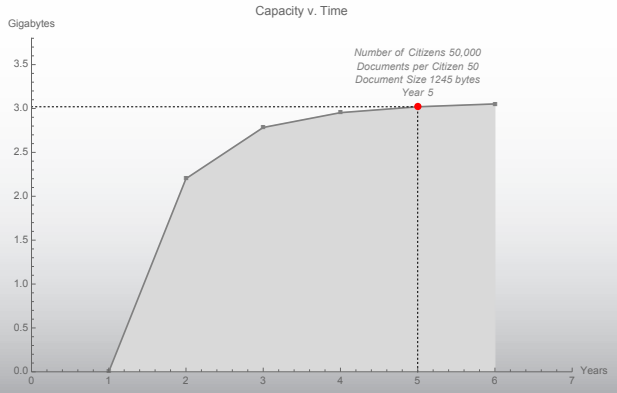
We have modeled how capacity grows over time in the Stoneblock ecosystem with three sets of parameters and we have called the models: small, medium and large.

Contact Us

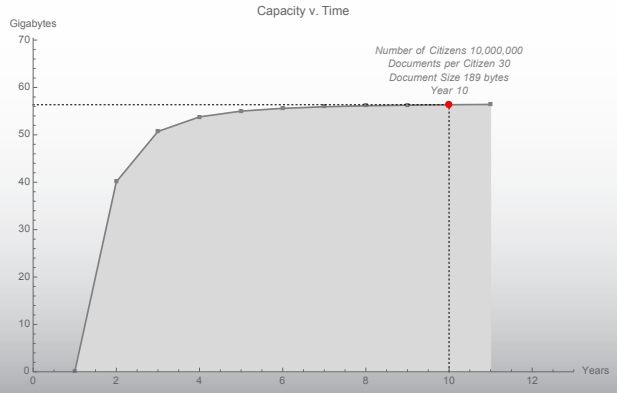
Neocapita is a privately--owned firm incorporated in Estonia with offices in Vienna, Austria and Bucharest, Romania. Connect with us via email: info@neocapita.com, to learn more about Stoneblock and to arrange a demonstration.

Visit us on the web: neocapita.com.

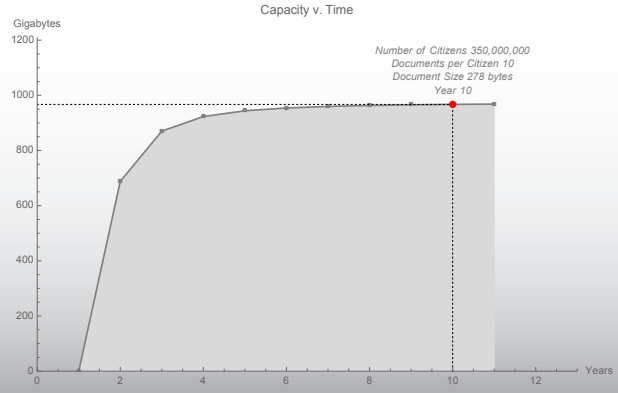
Model: SMALL	
Number of Citizens	50,000
Documents Per Citizen	50
Average Document Size	1,245 bytes
Duration Modeled	5 years
Adoption Function	Sigmoid
Capacity Needed	**3.0 gigabytes**



Model: MEDIUM	
Number of Citizens	10,000,000
Documents Per Citizen	30
Average Document Size	189 bytes
Duration Modeled	10 years
Adoption Function	Sigmoid
Capacity Needed	**56.4 gigabytes**



Model: LARGE	
Number of Citizens	350,000,000
Documents Per Citizen	10
Average Document Size	278 bytes
Duration Modeled	10 years
Adoption Function	Sigmoid
Capacity Needed	**967.0 gigabytes**



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