DocNoS/DatNoS

Use Cases & Module

6/2024 (v4)

AUSTRIA PRO

Bestandsaufnahme (“Inventur“)

- Usecase DocNoS
  - APSB
  - PSBC
- Usecase DatNoS
- Software-Module verfügbar
  - Quellen: AustriaPro-Lab, BC-Init, 3rd party
  - Produktion, Test, Prototyp
- Ist-Zustand?
  - Vorbereitung für Konsolidierung

- Links siehe
  - AustriaPro Lab Links-Seite
  - BC-Init Webseite

AustriaPro Blockchain Lab

Diese Seite beinhaltet Links zu diversen Themen und Ergebnissen des Arbeitskreises Blockchain der AustriaPro und dem "Blockchain-Lab". Weiters werden Informationen von inhaltlich verwandten Systemen bzw. Organisationen aufgelistet.
Bitte beachten: Da es sich um ein "Lab" handelt, in dem oft experimentiert wird, kann es vorkommen, dass nicht immer alle Services verfügbar sind bzw. korrekt funktionieren.

Dokumentation

- AustriaPro Arbeitskreis Blockchain: Kurzbeschreibung, Termine, Protokolle und Präsentationen (2018 - 2023) sowie weitere Links.

Demos Blockchain und Keys (laufen im Webbrowser)

- Blockchain Demo - By Anders Brownworth - Erweiterung Strukturierte Daten - Erweiterung Strukturierte Daten - Beispiele Daten-Zertifizierung
- Public/Private Keys & Signing - By Anders Brownworth

MultiChain

Die Opensource Blockchain Umgebung MultiChain ist das im Lab am meisten verwendete System.

Tools, Anleitungen

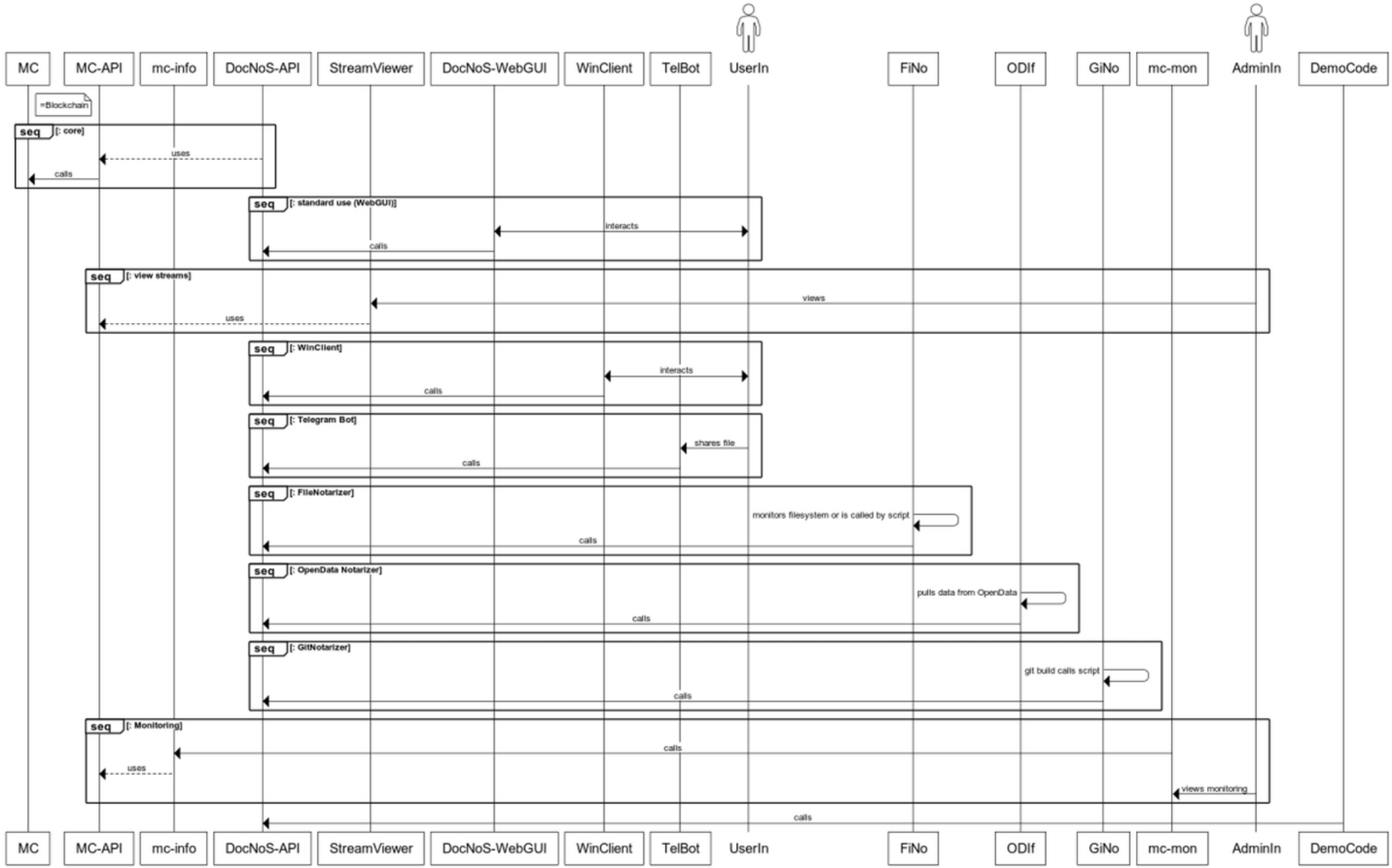
- Multichain Node im AustriaPro Lab auf Basis Docker installieren - Anleitung für Lab-Node "apro-lab-2" (2023)
- Multichain API Library (PHP) (2022)
- Demos for AustriaPro Blockchain Lab - Schreiben und Lesen in/von Multichain Streams (Sourcecode in PHP). (2022)

Node AustriaPro Lab 1 (-> 2022)

- Web-GUI für einen der im Lab installierten Blockchain-Nodes
- Proof Of Existence - Demo

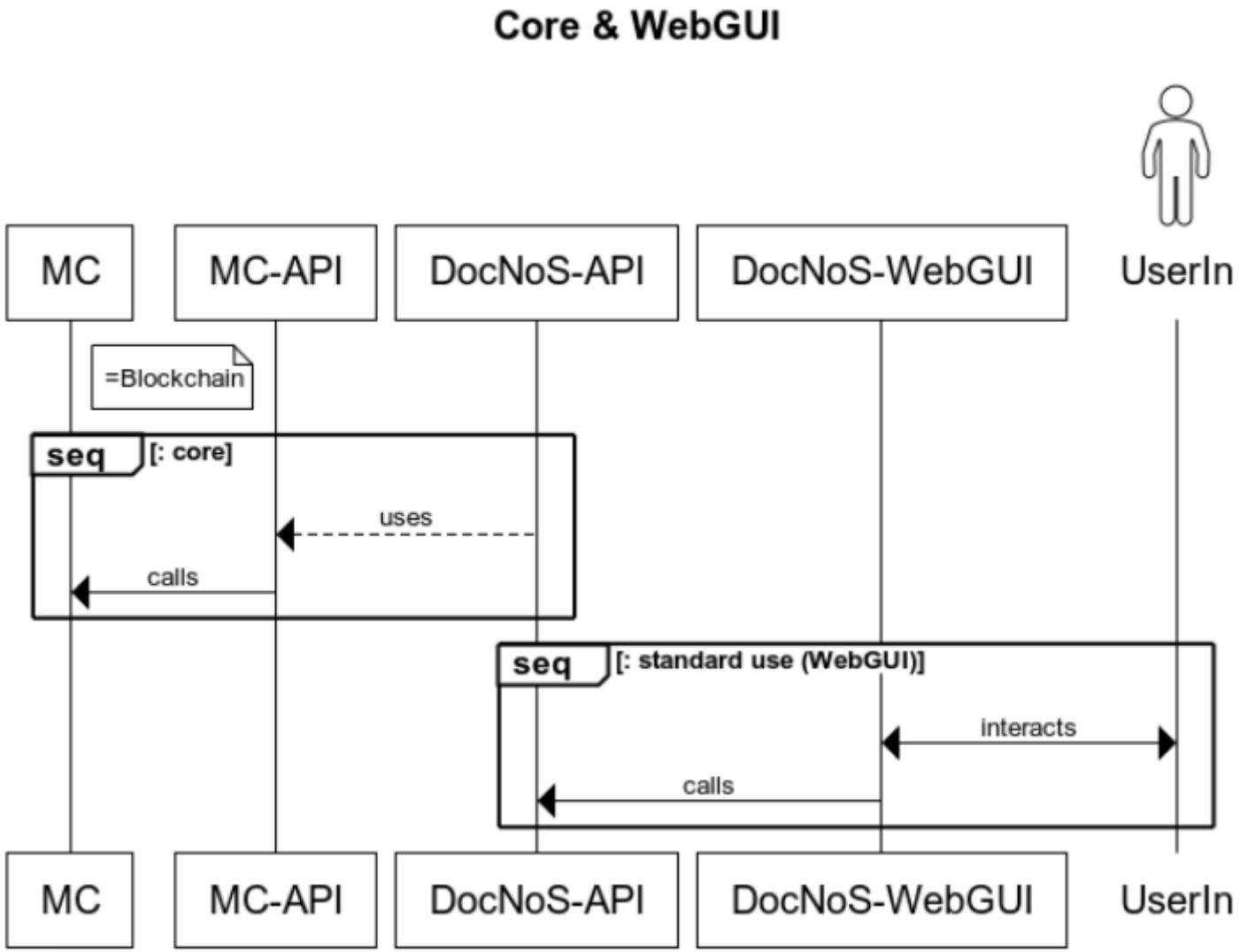
Node AustriaPro Lab 2 (ab 2023)

DocNoS Landscape & Artifacts

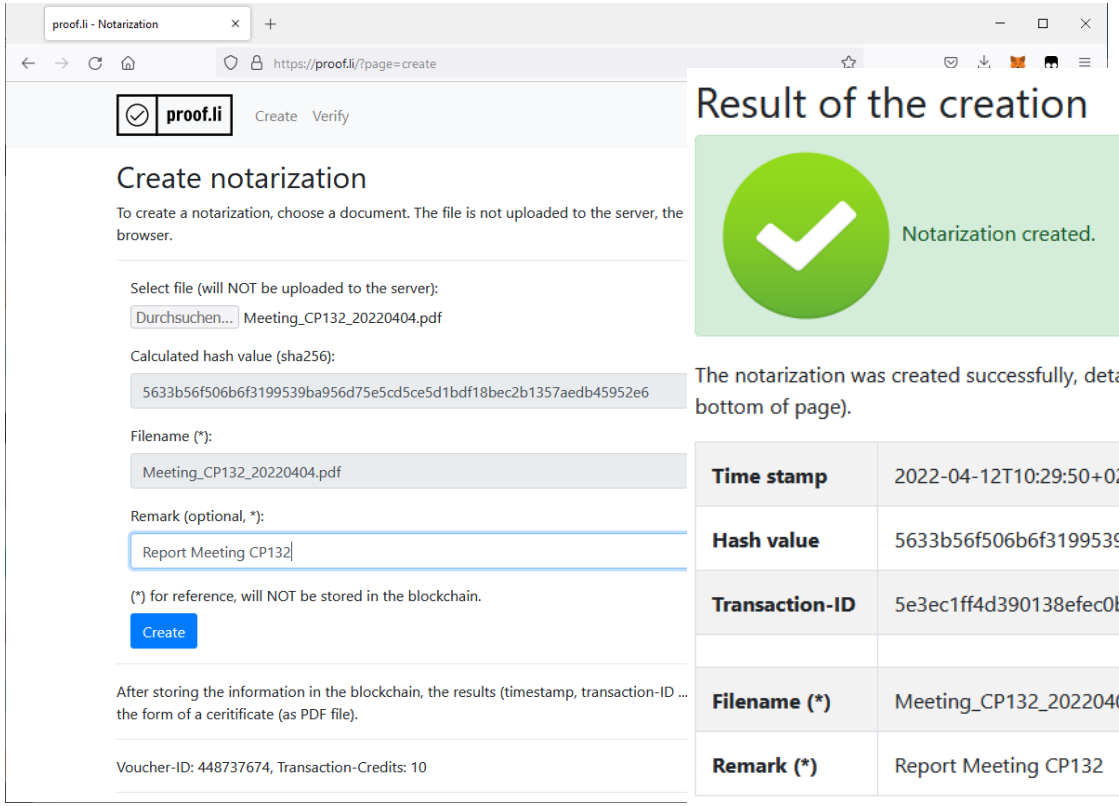


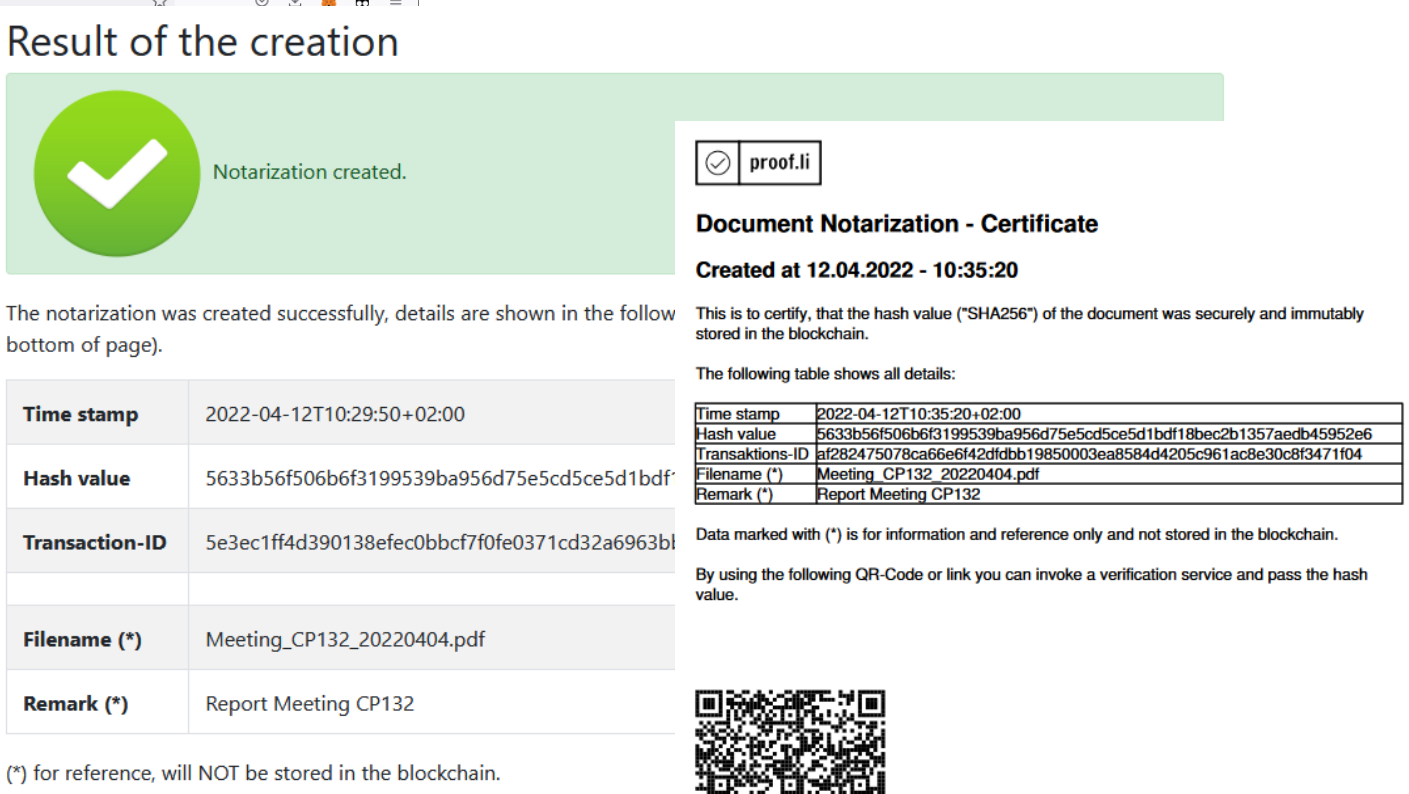
Core & WebGUI

- 2 productive chains (APSB, PSBC), several Test-Chains
- MC-API
  - OS, Github
  - Example Code
- DocNoS-API
  - Specification
  - Example Code
- Web-GUI
  - Used on most systems
  - Create/Verify (Dual)



Notarization - Creation (Example: Web-GUI)





Example „proof.li“ operated by https://bc-init.at

Notarization - Verification (Example: Web-GUI)

Verify notarization

Here you can check whether/when a document was notarized, i.e. the digital fingerprint (hash value) of a file was stored in the blockchain.

To do this, select the corresponding file (the hash value is calculated automatically), or enter

Select file (will NOT be uploaded to the server) to calculate hash value:

Durchsuchen... Meeting_CP132_20220404.pdf

or hash value (sha256):

5633b56f506b6f3199539ba956d75e5cd5ce5d1bdf18bec2b1357aedb45952e6

or Transaction-ID:

Verify

The entered data is searched in the blockchain and displayed accordingly.

Result of the verification

Hash value "5633b56f506b6f3199539ba956d75e5cd5ce5d1bdf18bec2b1357aedb45952e6" found.

One entry was found, i.e. the document with the corresponding hash value was notarized in this system at the specified time.

Record 1/1

Block hash	0056149bdabd6f8635ca8393f7130aea9ac5d0728f0c0c42f3bf8f7a3097996b
Block time	2022-04-12T10:30:06+02:00
Confirmations	14
Time stamp	2022-04-12T10:29:50+02:00
Hash value (sha256)	5633b56f506b6f3199539ba956d75e5cd5ce5d1bdf18bec2b1357aedb45952e6
Transaction-ID	5e3ec1ff4d390138efec0bbcf7f0fe0371cd32a6963bb909a5742d578b209441

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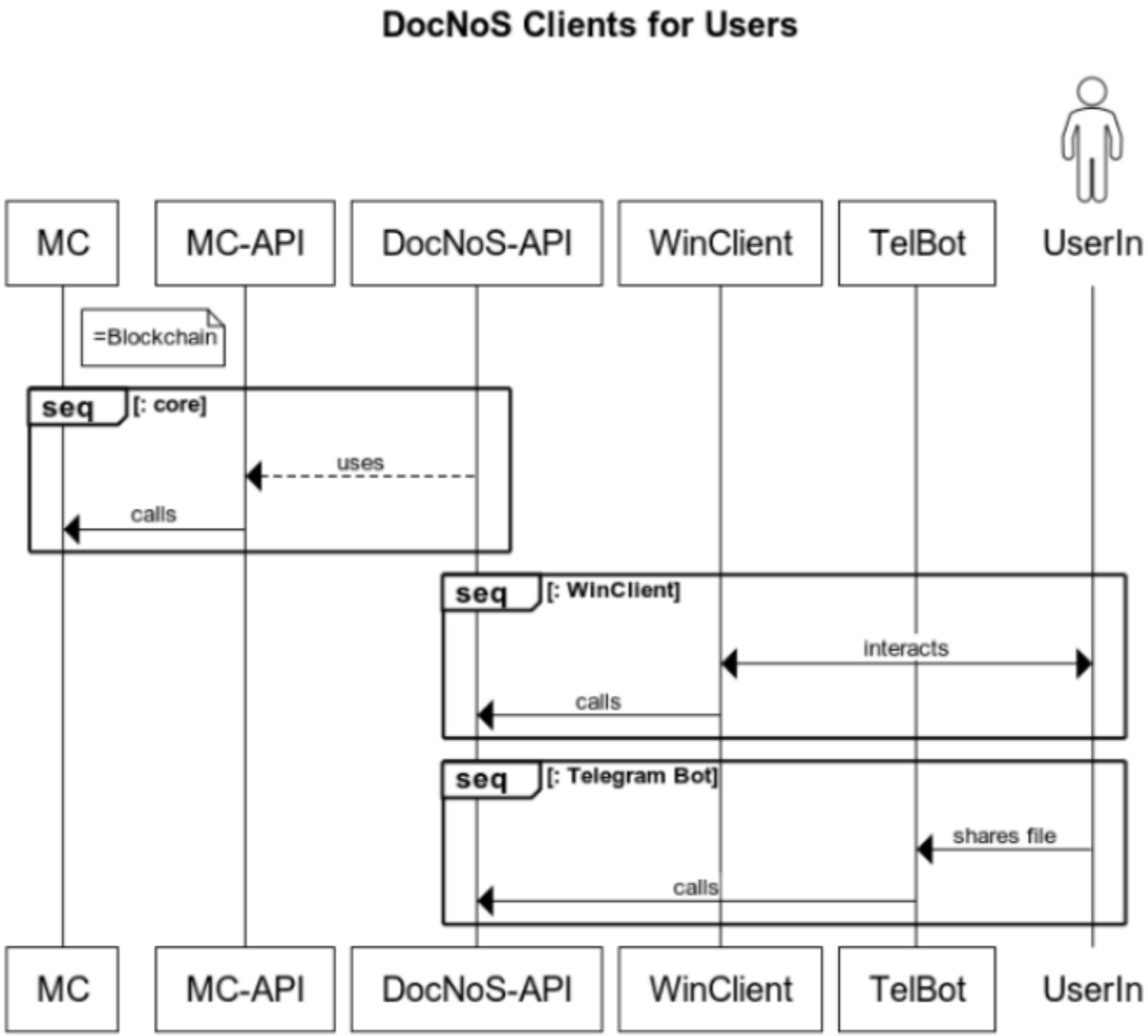
BLOCKCHAIN INITIATIVE AUSTRIA

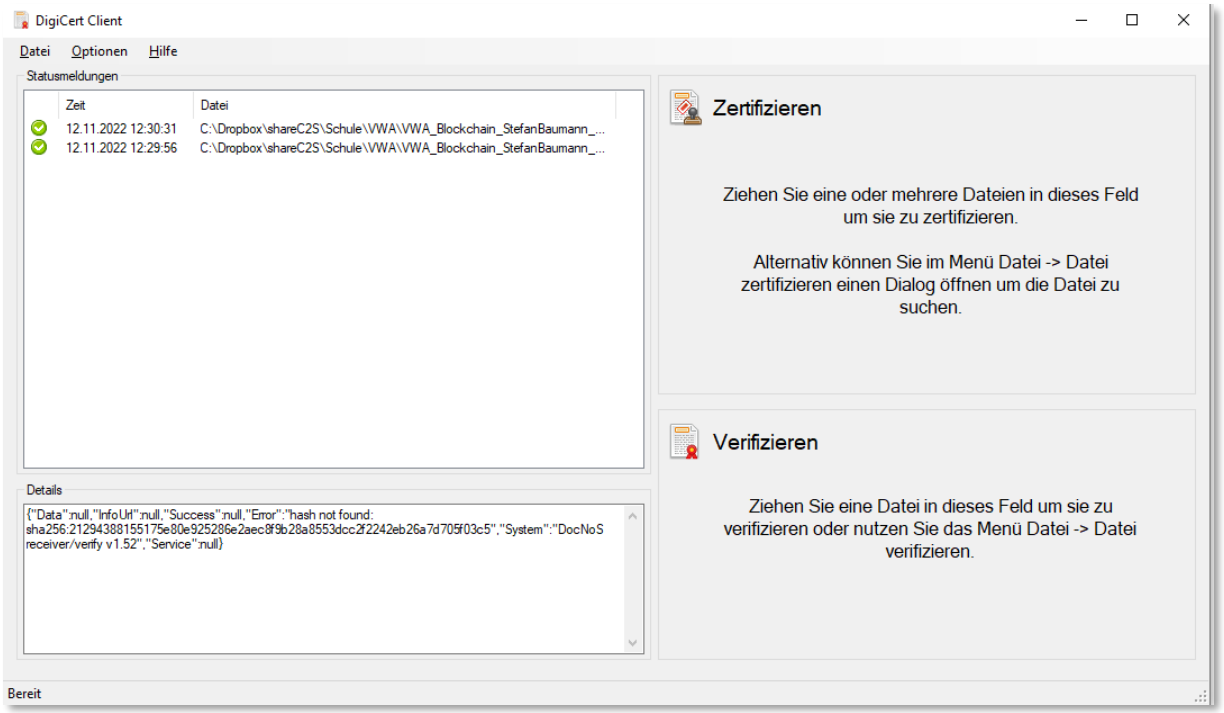
Clients for Users

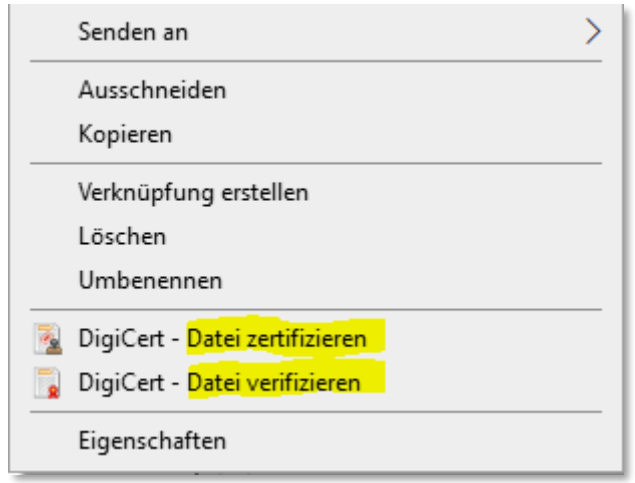
- WinClient
  - 3rd party
  - PSBC: different users
  - APSB: WU
- Telegram Bot
  - prototype on test chain



DigiCert Client

- Windows Desktop Programm
- Nutzung via Menü, drag & drop oder Kontextmenü





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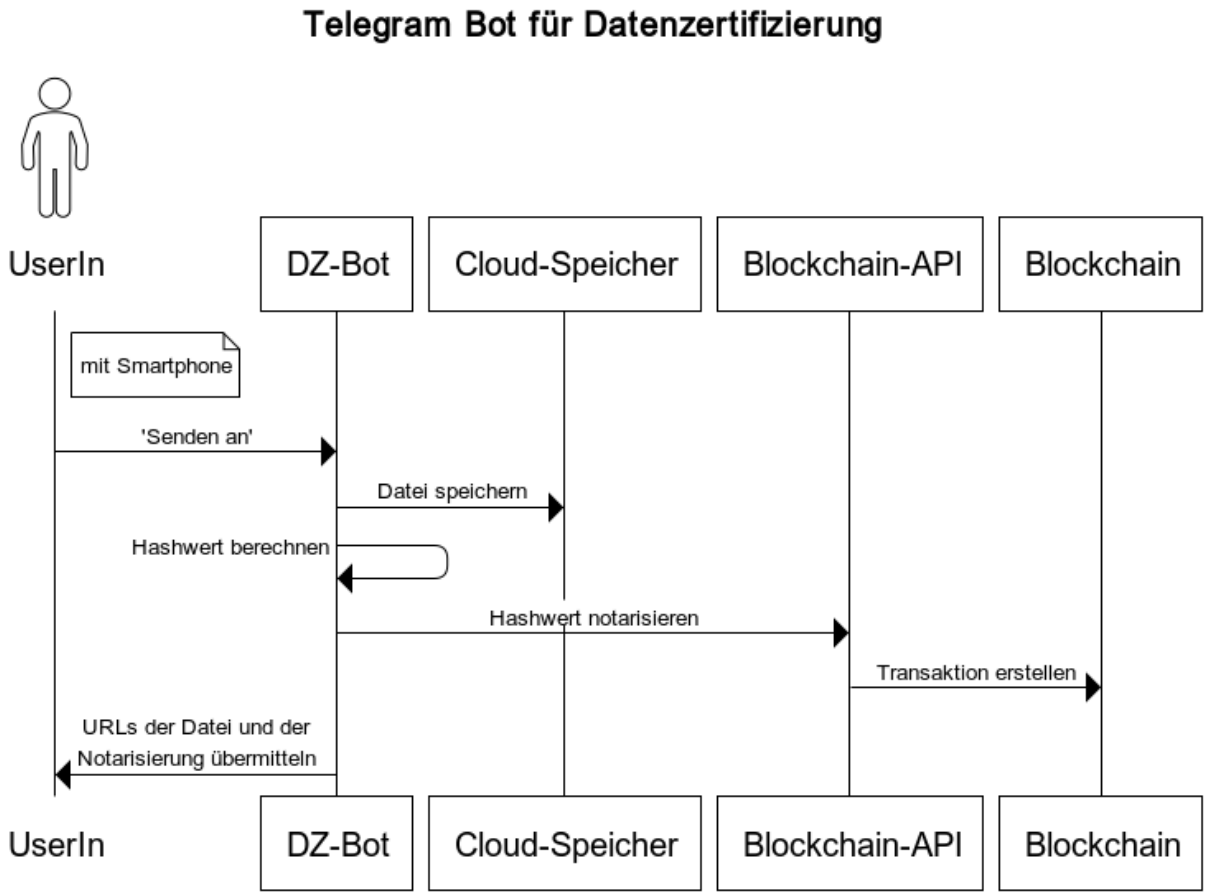
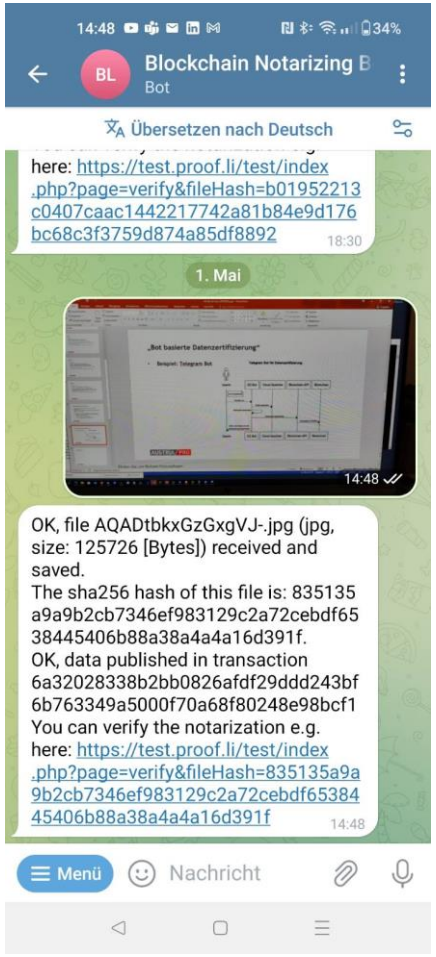
BLOCKCHAIN INITIATIVE AUSTRIA

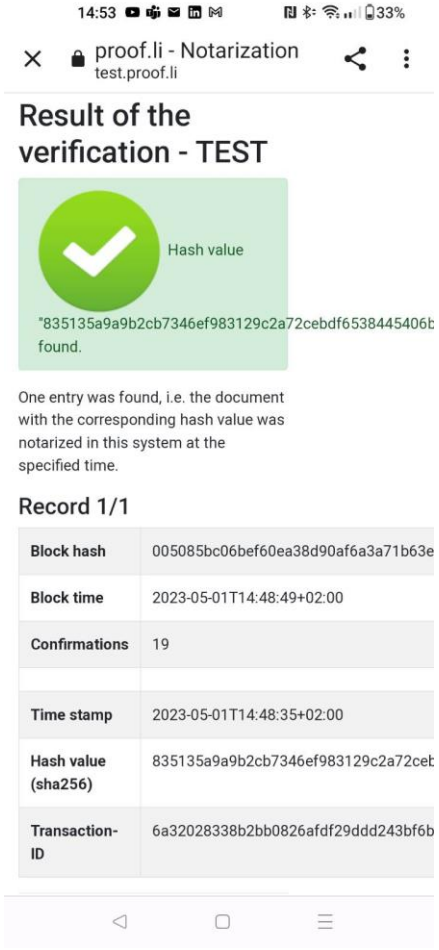
„Bot basierte Datenzertifizierung“

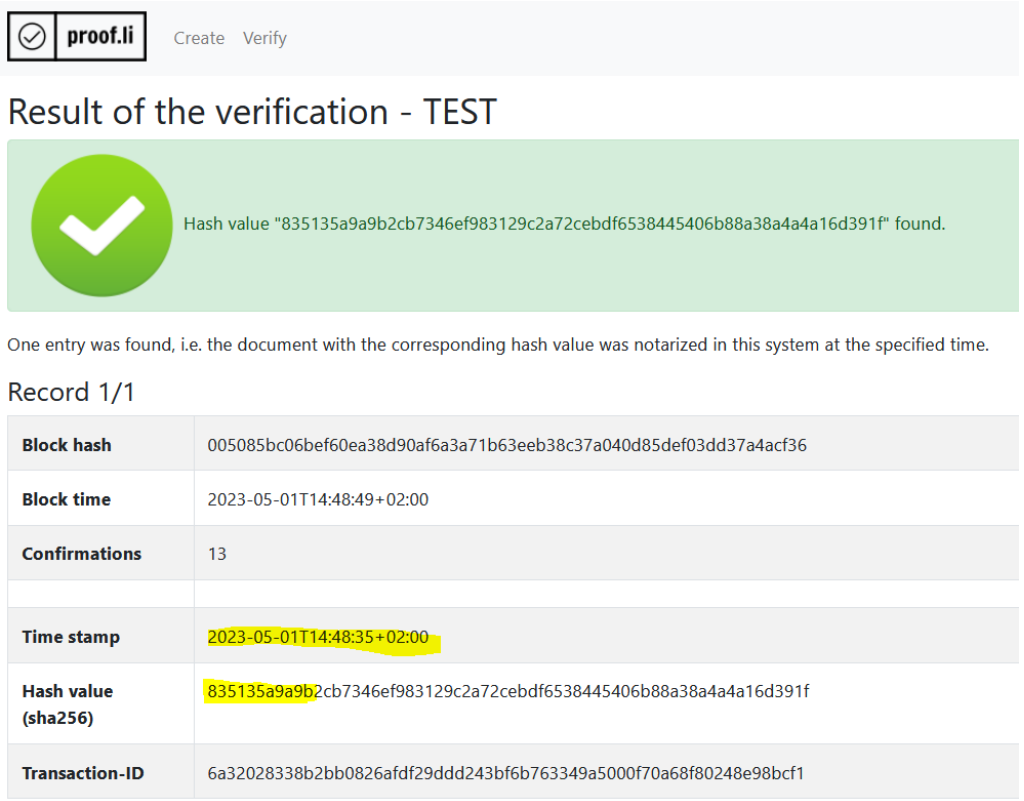
- Beispiel: Telegram Bot



Telegram Bot: „Blockchain Notarizing Bot“







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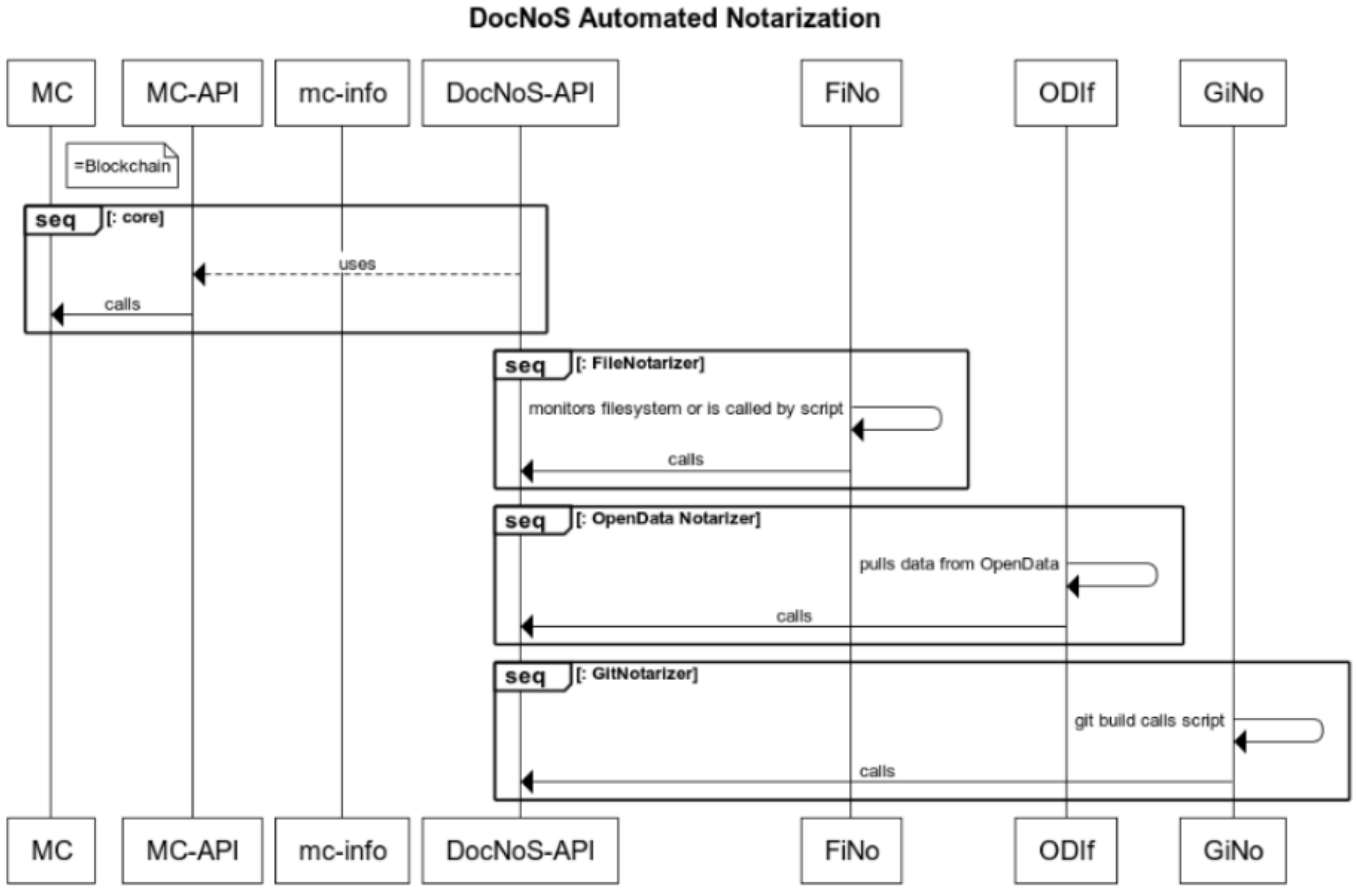
BLOCKCHAIN INITIATIVE AUSTRIA

Automated Notarization

- File-Notarizer
  - E.g. used by BMSGPK
- OpenData Interface
  - Wien (in development)
  - (Air Quality Chain)
- Git-Notarizer
  - In Build-Pipeline
  - used by BMSGPK (GitLab instance)



Git-Notarizer (example)

- First use in „OpenNCP-project“
- Called from Build-Pipeline
- Hashvalues of
  - Git-Commit-ID
  - Artifacts (.jar, .war)

Publishers	13VXwdarLRtV5fyP8qdWEFXebe6Ay45pgdY4Bb
Key 0	id:015f612d-381b-4efd-9a8e-899a6e4b1b25
Key 1	sha256:7fe38537b427b768c39e4111d7cf28c3cc7a7d524b89a0a3431fda4819b7bccd
Key 2	sha512:5cf51d8a1e53d9b0017b445e07d6dd706b858fcb8bf1e9fcffea0b48cbfa315e572553a77bddabbba489f617982cdee66abed46edd04cd0599ec736bce442ad8
Key 3	artino/Test

JSON data	{
	"timeStamp": "2023-11-23T12:49:13+01:00",
	"client": "artino\/Test",
	"version": "DocNoS-v1.1",
	"data": {
	"id": "015f612d-381b-4efd-9a8e-899a6e4b1b25",
	"hashes": {
	"sha256": "7fe38537b427b768c39e4111d7cf28c3cc7a7d524b89a0a3431fda4819b7bccd",
	"sha512": "5cf51d8a1e53d9b0017b445e07d6dd706b858fcb8bf1e9fcffea0b48cbfa315e572553a77bddabbba489f617982cdee66abed46edd04cd0599ec736bce442ad8"
	},
	"remarks": "artifact openncp-configuration-utility-7.0.0.jar notarized by gitlab"
	}
	}

Transaction	68f5817bfba14f2b6b11d17af381302115b772418e3ce296352b9904a88f229b
Blocktime	2023-11-23T12:49:25+01:00
Blockhash	002efbbd425bb3658b76a8157ae5728602dfd38b69885f599732b3a9673690b5
Confirmations	21

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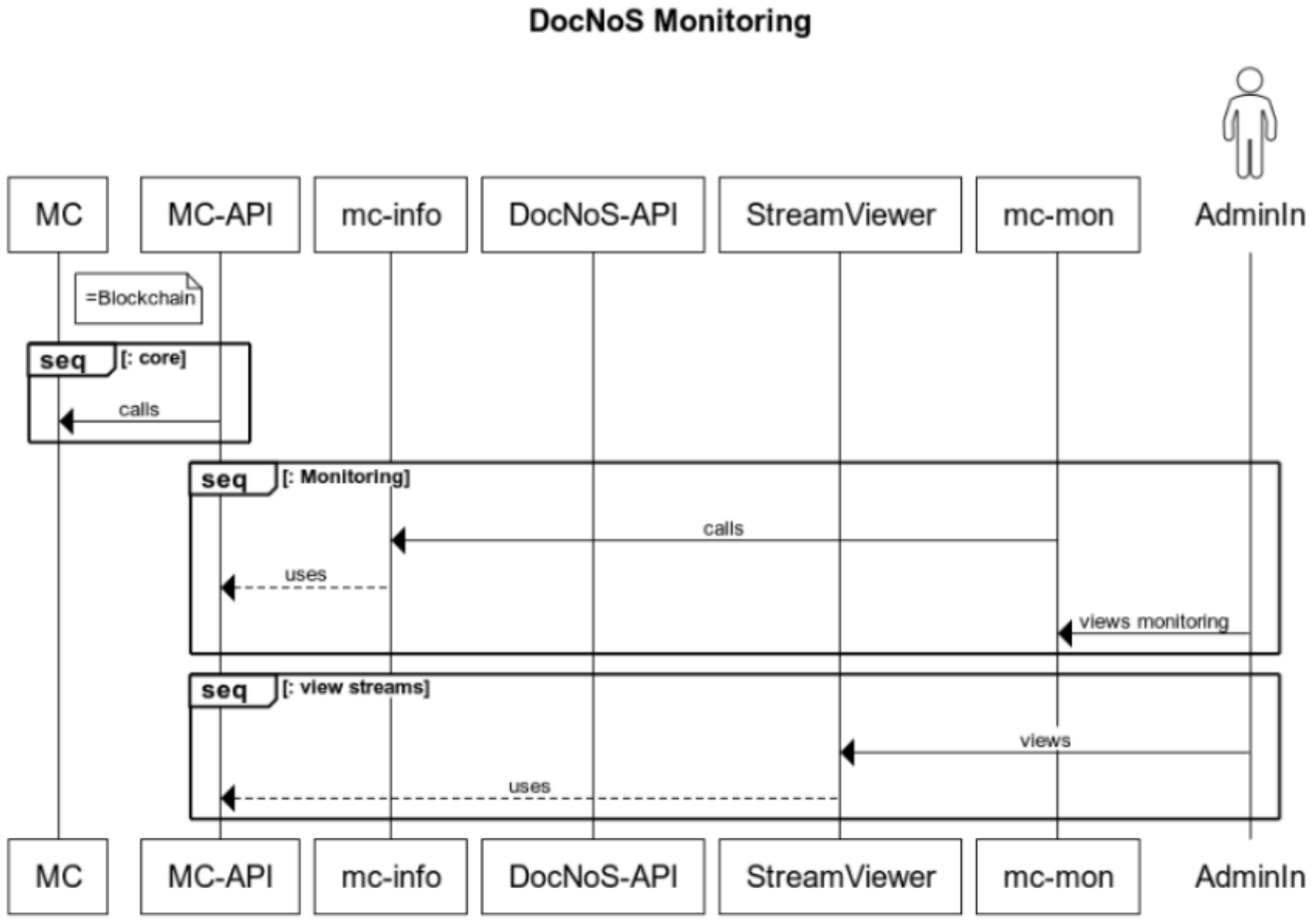
Monitoring

- mc-info
  - runs on servers
  - collects info from node/s
- mc-mon/mc-view
  - collects infos from mc-infos
  - WebGUI: viewer
- Stream Viewer
  - directly view streams



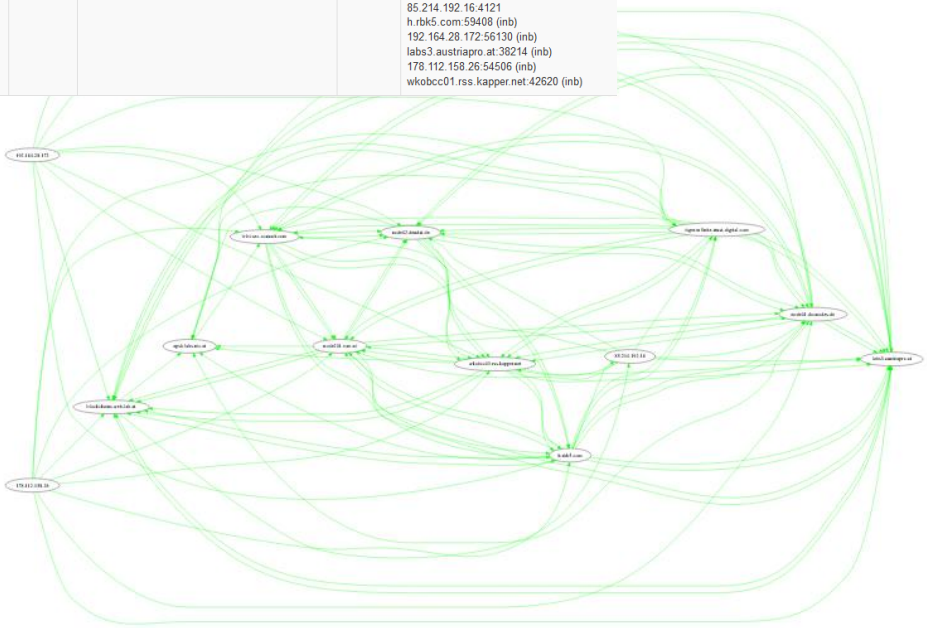
mc-view / Stream Viewer

Multichain Node(s) Status - NEU

blockchains.web-lab.at

ExtIP: 88.99.145.156, version: mc-info-pro v0.4, owner: baumann.at, dataUrl

chainname	version	blocks	nodeaddress	#conns	conns
datnos-c19	2.3.3	118383	datnos-c19@88.99.145.156:2683	6	bibi.sec-consult.com:2683 85.214.192.16:38996 (inb) h.rbk5.com:46184 (inb) 192.164.28.172:59204 (inb) labs3.austriapro.at:2683 178.112.158.26:54538 (inb)
datnos-20200220	2.3.3	487183	datnos-20200220@88.99.145.156:4121	10	apsb.labs.nic.at:4121 node201.ivm.at:56494 (inb) tiger.infinite-trust-digital.com:47794 (inb) node01.docnodes.de:34006 (inb) 85.214.192.16:4121 h.rbk5.com:59408 (inb) 192.164.28.172:56130 (inb) labs3.austriapro.at:38214 (inb) 178.112.158.26:54506 (inb) wkobcc01.rss.kapper.net:42620 (inb)



DocNoS - Data view

Select Key

[all] - bs-client-cb1 - bs-client-jb1 - dn-client-cb2 - dn-client-jb2 - dn-client-cb3 - dn-client-jb3 - proof.li - dn-client-cb4 - bibi.li - test.meinwko - ForFor - sha512: - sha3/512: - dn-client-v3-std - test.nic.at - dn-client-v3-std-KEY - test.securikett - cardid:123 - test.ma01.wien - dn-client-cb4-std - proof.li/c2 - proof.li/c2/test - sec/forfor/test - pyDemo - Blockstempel-v2 - ABC-Test1 - proof.li/c#-client/test - proof.li/csc/test - IVM/Test - Weinand/Test - digicert/test - digicert/mei - woschitz/test - ifm.tu/test - docnos/test - MTP/Test - condignum/Test - pydemo - dnfn/test - futurelab/Test - TelegramNotarizingBot/test - matdol/Test - icomedias/Test - itreebute/Test - vecctor.de/Test - artino/Test

Key: [all]

10 of 55049 items

first - prev - next - last

Publishers	13VXwdarLRtV5fyP8qdWEFXebe6Ay45pgdY4Bb
Key 0	id:6d9b6745-0733-442d-91bc-7c789e7f2c23
Key 1	sha256:05a6fa5a397b24515eef50d830b5d242be551cc7f9ec296852e3dab9b12913dd
Key 2	sha512:76432dbb9051c0e8c8297743a85884db4575c2df0232bfe3ecf06ae0b2d848682084e478fbf356f852c1e0ed02edc3c1033600c9d3f312
Key 3	artino/Test

JSON data	{
	"timeStamp": "2023-11-23T12:49:13+01:00",
	"client": "artino\/Test",
	"version": "DocNoS-v1.1",
	"data": {
	"id": "6d9b6745-0733-442d-91bc-7c789e7f2c23",
	"hashes": {
	"sha256": "05a6fa5a397b24515eef50d830b5d242be551cc7f9ec296852e3dab9b12913dd",
	"sha512": "76432dbb9051c0e8c8297743a85884db4575c2df0232bfe3ecf06ae0b2d848682084e478fbf356f852c1e0
	},
	"remarks": "CI_COMMIT_SHA"
	}
	}

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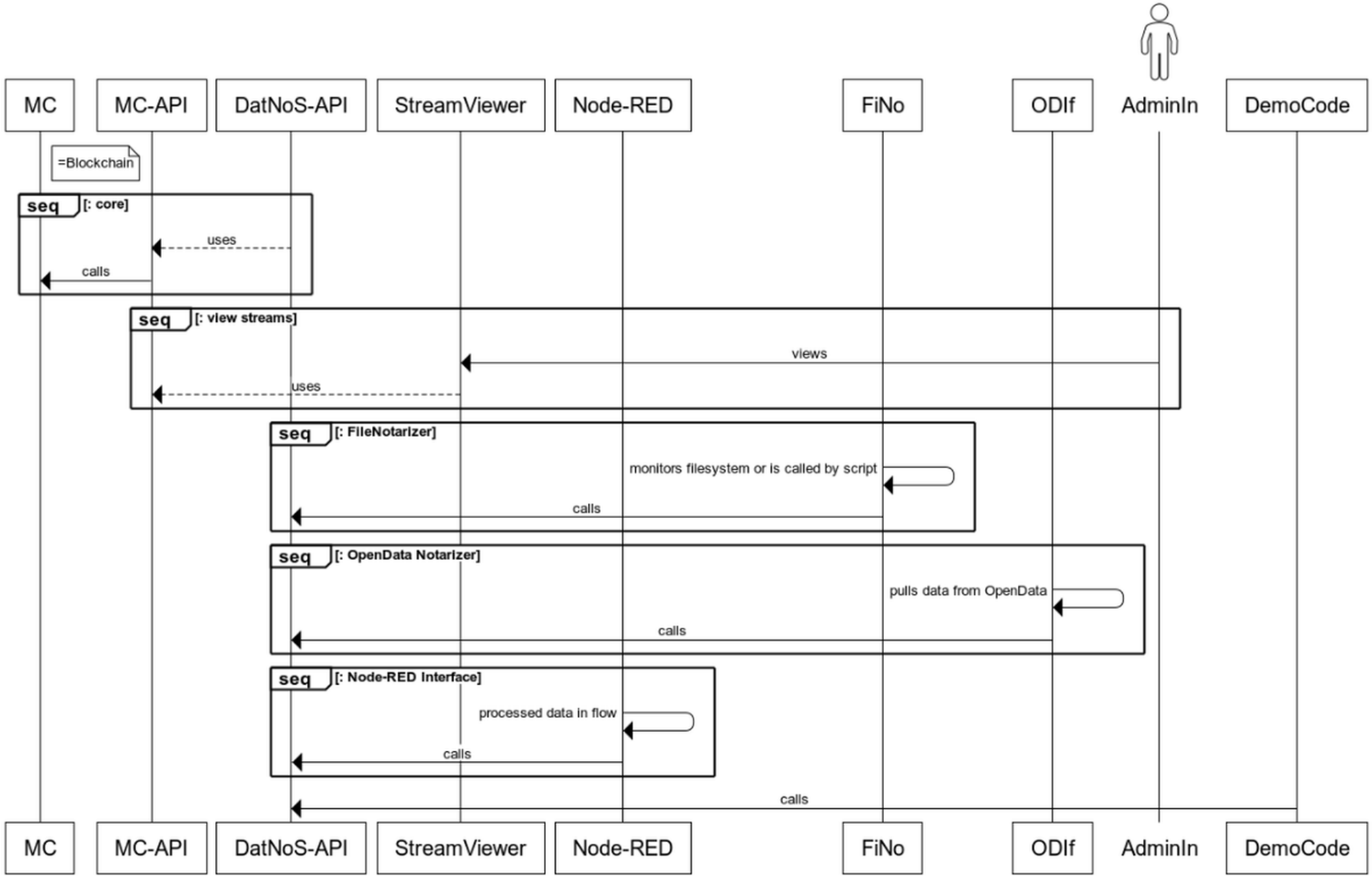
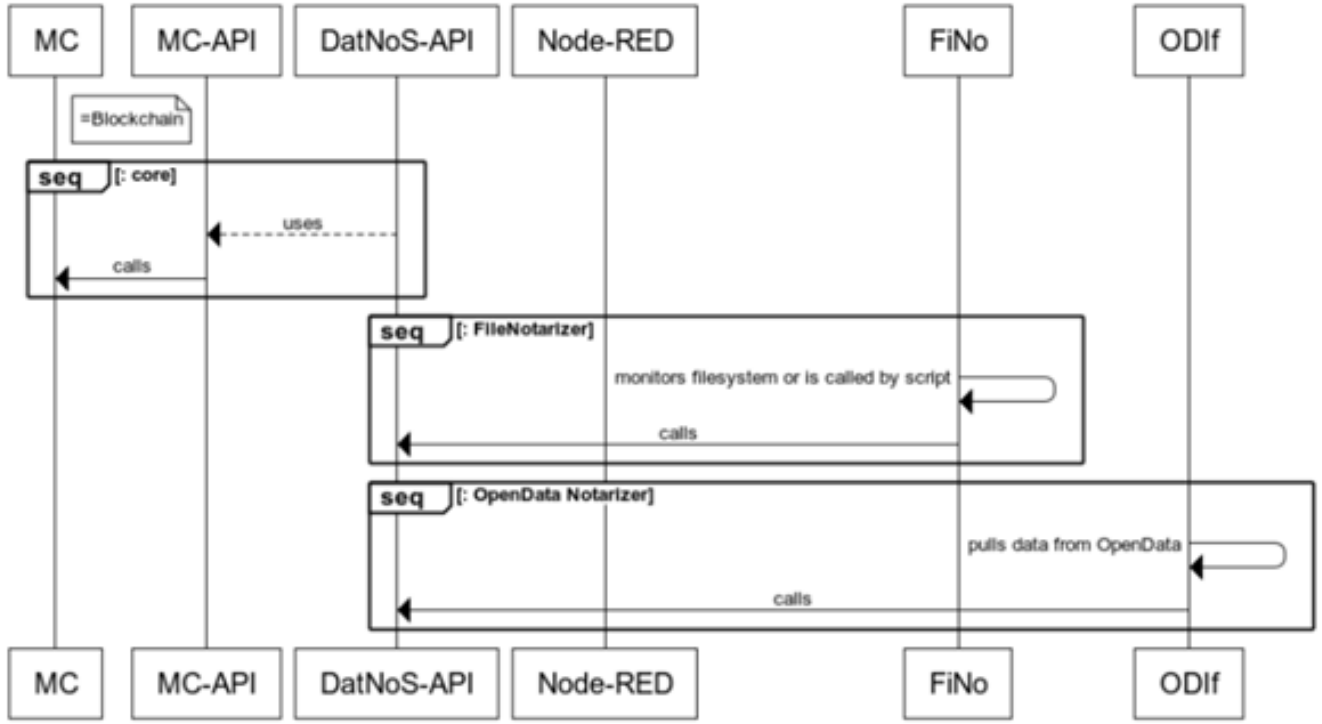
DatNoS Landscape & Artifacts



File/OpenData-Notarizer

- Similar to DocNoS version
- Saves data as
  - JSON
  - Binary

- Same method for „live“ data from
  - IoT devices
  - cloud services
  - …



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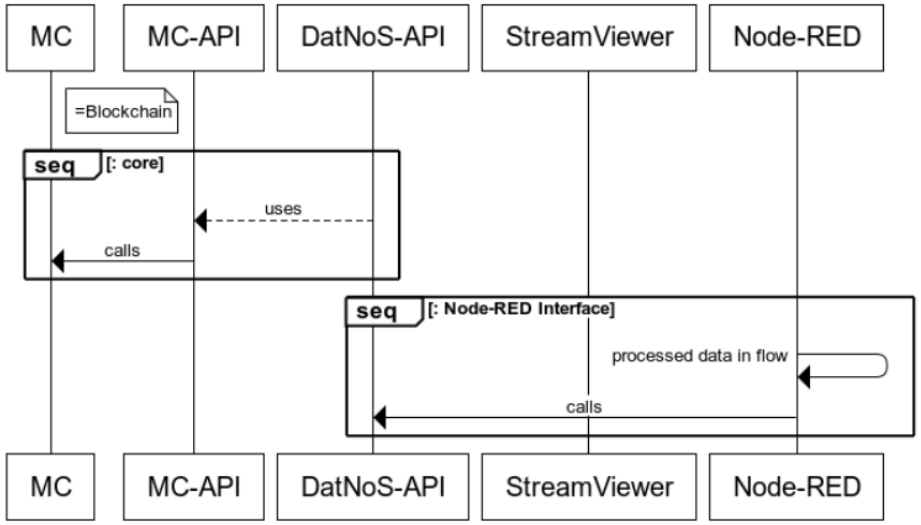
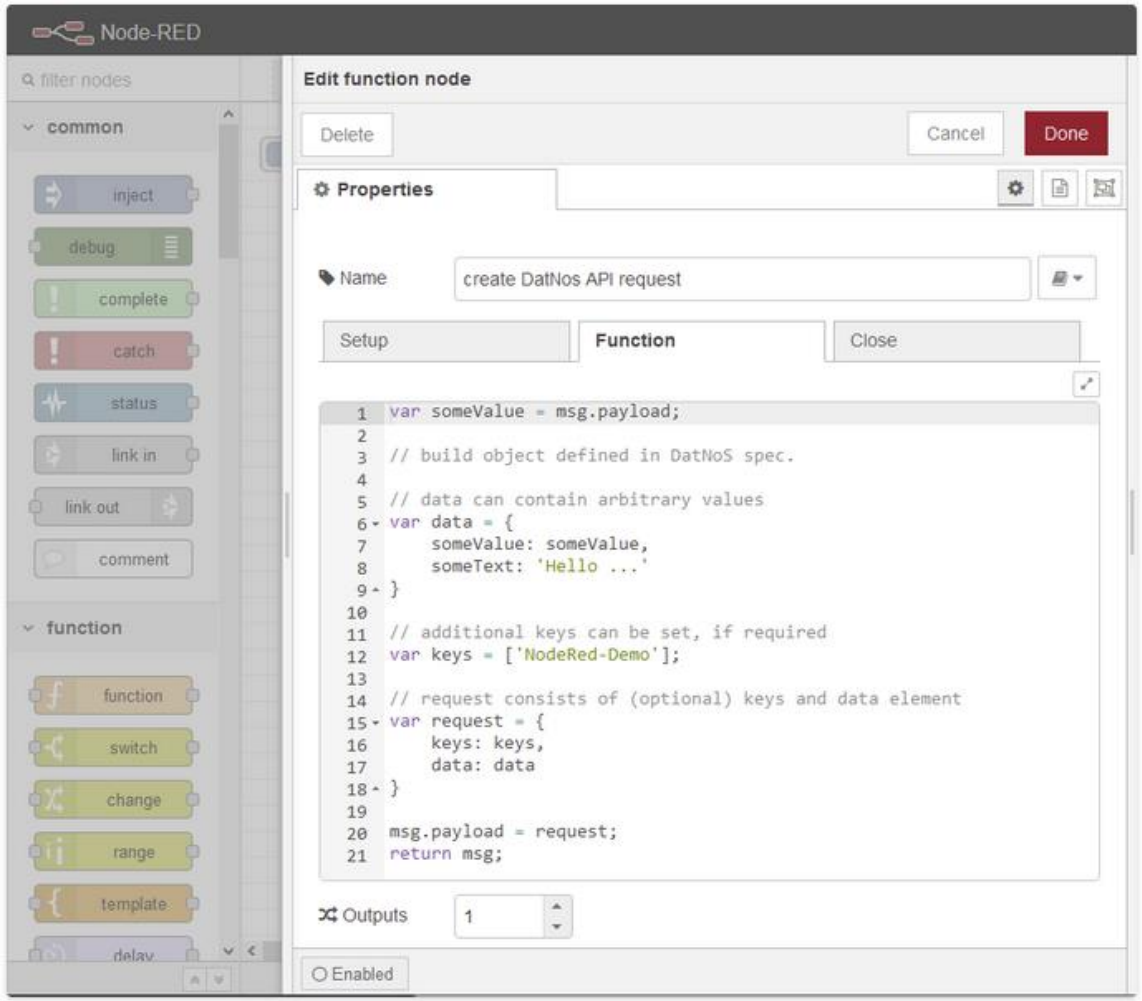
Node-RED Interface

- … a flow-based, low-code development tool for visual programming
- Automation, IoT …





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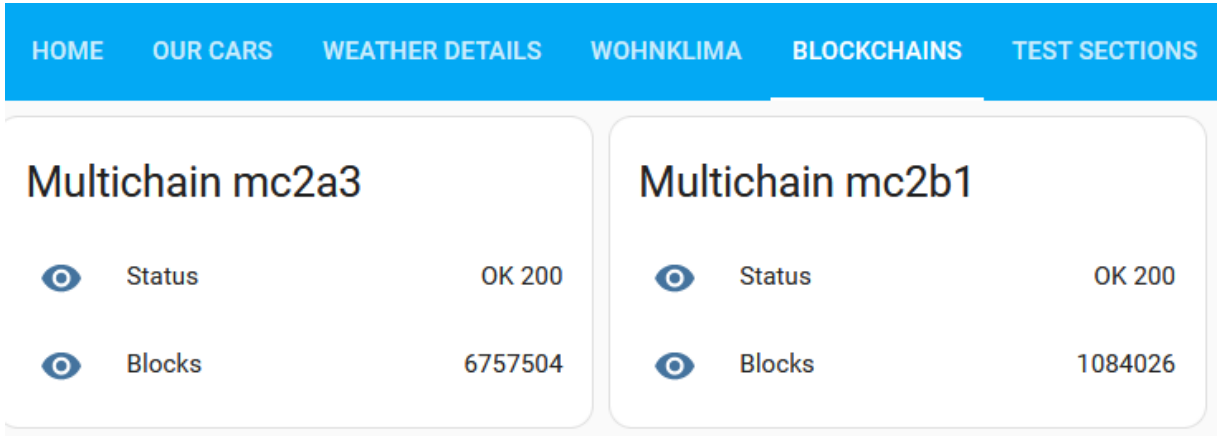
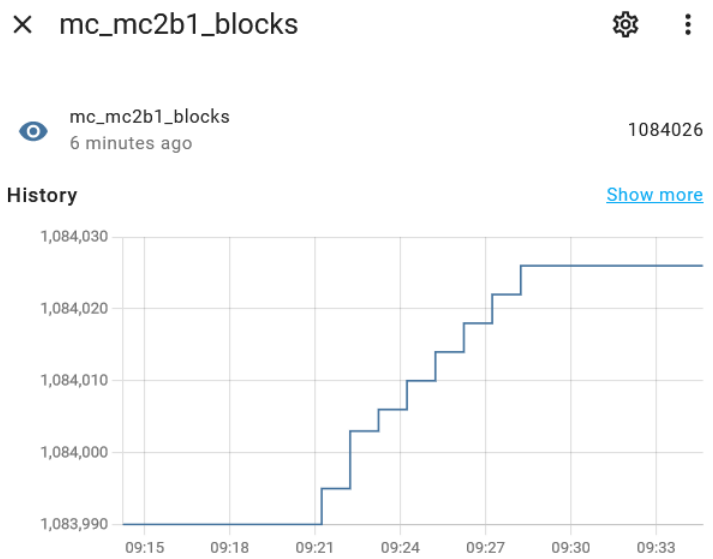
Multichain-Monitoring Integration for Home-Assistant

- HA designed for „Smart Home“
- But also usable for other purposes
- HA
  - integration queries infos from „mc-mon“
  - saves it to sensor-DB
  - displays it on dashboard
- possible next steps
  - InfluxDB, Grafana
  - MQTT …





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BLOCKCHAIN INITIATIVE AUSTRIA

Zusammenfassung

- Usecase DocNoS
  - APSB, PSBC
  - User: WebGUI, Windows Client, (Telegram Bot)
  - Automatisierung: Files, OpenData, Git-Integration
  - Admin: Monitoring, Stream-Viewer
  - Demo-Code
- Usecase DatNoS
  - Diverse Module verfügbar (Test, Prototyp)
  - Dokumentation ongoing
- Software-Module verfügbar
  - Produktion & Test, Prototypen
  - Quellen: AustriaPro-Lab, BC-Init, 3rd party
- Ziel: Spezifikationen und Interfaces bereinigen, kompatibel machen
  - -> Synergieeffekte