European Cyber Defence Policy

1. **Highly Modular Architecture**: Enables the performance of a wide range of tasks, such as data exfiltration, keystroke logging, and network reconnaissance.
2. **Advanced Persistence Mechanisms**: Maintains its foothold in infected systems by encrypting payloads and employing obfuscation techniques to evade detection.
3. **Covert Communication**: Utilizes stealthy communication methods, often tunneling traffic through legitimate protocols like HTTP, HTTPS, and DNS, and sometimes piggybacks on legitimate traffic to avoid detection.
4. **Peer-to-Peer Network**: Uses an encrypted peer-to-peer (P2P) network to communicate between infected machines, making it challenging to disrupt its operations.
5. **Cross-Platform Capability**: Targets multiple platforms, including Windows, macOS, and Linux, enhancing its versatility in espionage campaigns.

Author: Fernando Latorre (ORCID 0009-0004-6313-6471)

QuantumPrime

What is QuantumPrime?

1. **Mathematical method**: An additional security layer to create secret keys and anonymize data.

   Formula: ***observable*** **=** **base** **±E** , where **base** **is a prime number, and "E" is a product of primes** (Euclid's Theorem).

2. **Strong protection**: Strong randomness is achieved by distinct prime numbers and depths.

   Recursion: applying the formula to each prime factor (up to a certain depth) **increases the complexity**.

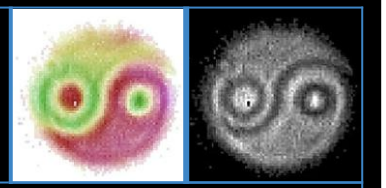
3. **Unique Point-of-View for New Materials:** Analyzing the "quantum equilibrium" in materials through a unique and revolutionary approach—similar to the equilibrium of a tower made from elemental "Lego" blocks.

Singularity = **root prime ± 2^0 x q**

Values for:

electron (e-):	(2^1 + 2^-1) + 2^0 x (-1) = **1.5**
quark down (d):	3 + 2^0 x (-1/3) = **3 - 1/3**
quark up (u):	3 + 2^0 x (+2/3) = **3 + 2/3**
neutron (uud):	(3 + 3 + 3) + 2^0 x (-1/3 -1/3 +2/3) = **9**
proton (udd):	(3 + 3 + 3) + 2^0 x (-1/3 +2/3 +2/3) = **10**

Biphoton digital holography



Credits: *nature.com/articles/s41566-023-01272-3*

QuantumPrime

Author: Fernando Latorre (ORCID 0009-0004-6313-6471)

Prime numbers as "Lego" blocks to protect information

Private Key: which primes are used as preferred **bases**, in what **order of preference**, and the **level of recursion** applied.

1. **Easy integration:** sending mathematical expressions **as confirmation codes when performing operations** (email or SMS).

   1.1. ***Example**: the mathematical expression **"2^2281-1"** is encoded as **"9RdfrxM5U9N"** and generates a **large prime** (243 bytes).*

2. **Anonymization:** the formula produces a **unique hash of the information**, which is used as a public ID of the private data.

   1. ***Security**: **it is not possible to guess the key** from a generated hash (prime numbers, order and recursion level).*

   2. ***Example**:*

   Adding an **additional layer of security** to existing algorithms (SHA, HMAC, AES) to generate **unique secrets or identifiers,** such for **symmetric keys** (via hashing the formula) **and for digital twin IDs.**

   This includes protecting private data like account IDs, identification documents, mobile phone numbers, Bluetooth device IDs, as well as terrestrial, marine, or aerial vehicle identification numbers (civil or military).

> Using as preferred bases=[1021, 23] and recursion= 1: *6543210* = 1021 + 23 x 61 x 4663
>
> > ID or Secret (SHA3-256): *0x10470937752ceef8c5cff7cd77393efce0b2591f8844894789340a79854 1b1b9*
>
> Using as preferred bases=[1021, 23] and recursion= 2: *6543210* = 1021 + 23 x (23 + 2 x 19) x (1021 + 2 x 3 x 607)
>
> ID or Secret (SHA3-256): *0x9e0e47a1007a5cf167e2d8e00b6026d7630239465cd9209876aa60eb621380cc*
>
> Using as preferred bases=[1021, 13] and recursion= 2: *6543210* = 1021 + (13 + 2 x 5) x (13 + 2^4 x 3) x (1021 + 2 x 3 x 607)
>
> ID or Secret (SHA3-256): *0xc70a8c36987a070975080057c5908fab5bedf093d67c1a2f4ca91d543adee257*

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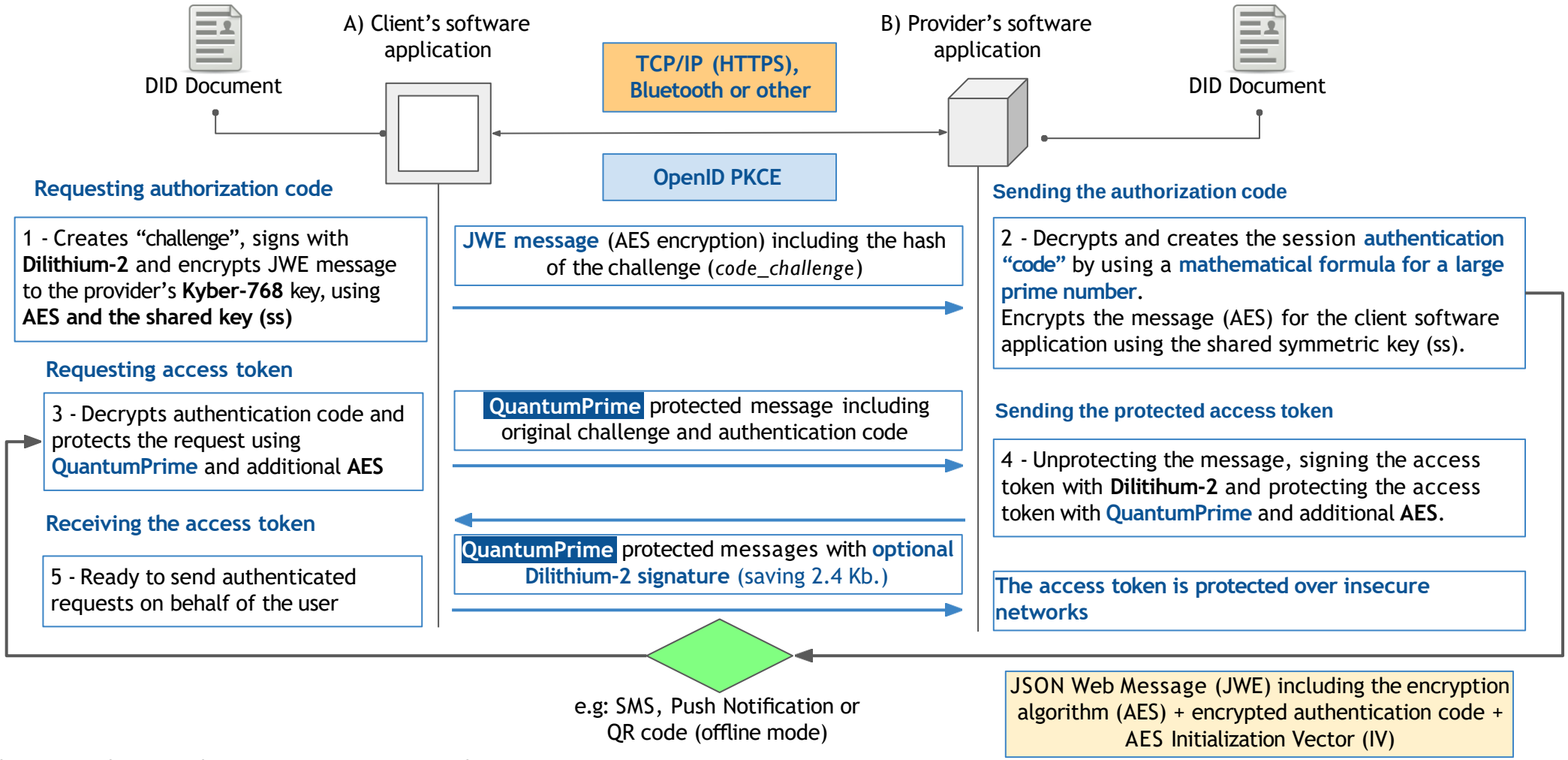
QuantumPrime

Quantum-Resistant Security for Any Network Channel

Secure session negotiation and data exchange for **HTTP and Bluetooth protocols**
by improved data protection mechanism (based on the Financial API Security Profile)



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QuantumPrime

Example: Emergencies and Rescue Operations

Documentation: github.com/soschain/docs

Preview video: youtube.com/@soschain

Info: connecthealth.info/soschain

QuantumPrime

Author: Fernando Latorre (ORCID 0009-0004-6313-6471)

SOS CHAIN

A new paradigm: the ***Unified Health ID****

Create your own **worldwide Unified Health ID** and link **any other identifier** to be **attended** to **anytime**.

Offline mode is supported in case of network downtimes by using your **secure wallet**.

Authorize being rescued in emergencies via **Bluetooth devices** (e.g. Apple Tag) or others.

Create **anonymous IDs**** to avoid being tracked.

** Patent US 11,636,776*

*** QuantumPrime is used for generating anonym device identifiers and digital twins*

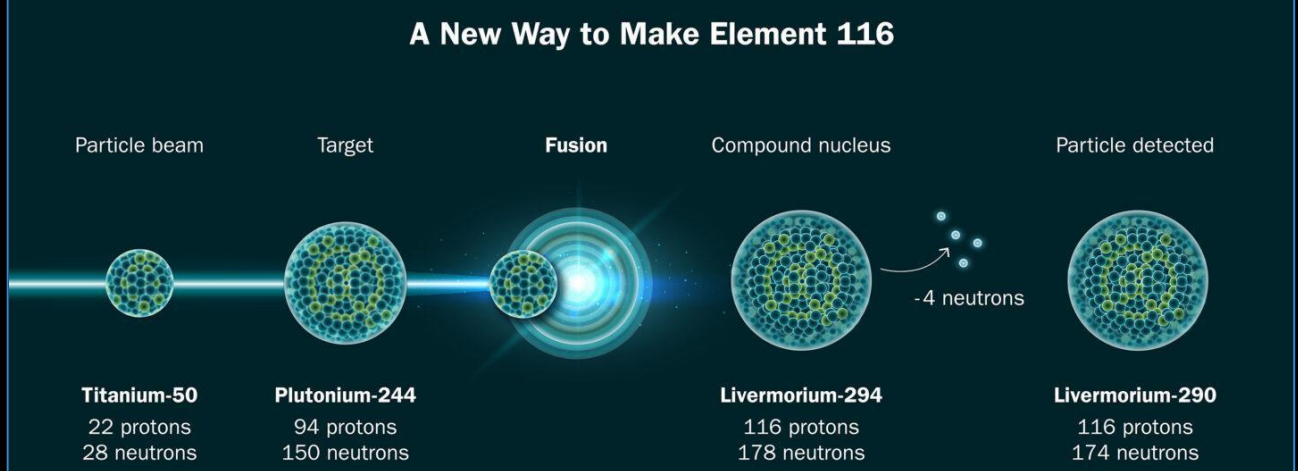
Author: Fernando Latorre (ORCID 0009-0004-6313-6471)

Use Case: Development of New Materials

Conducting a **validation** using materials from nature and laboratories:

Name	Element	Element Type	Isotope in Nature	Protons	Neutrons	Electrons	Value	Previous Prime	Distance From Previous Prime	Next Prime	Distance From Next Prime
Hydrogen (dihydrogen)	**H2**	Non-metal	H-1	2	0	2	23,0	23	0,0	23	0,0
Helium	**He**	Noble gas	He-4	2	2	2	41,0	41	0,0	41	0,0
Lithium	**Li +**	Alkali metal	Li-7	3	4	2	69,0	67	2,0	71	-2,0
Boron	**B 3+**	Metalloid	B-11	5	6	2	107,0	107	0,0	107	0,0
Oxygen	**O 2-**	Non-metal	O-16	8	8	10	167,0	167	0,0	167	0,0
Fluorine	**F -**	Halogen	F-19	9	10	10	195,0	193	2,0	197	-2,0
Neon	**Ne**	Noble gas	Ne-20	10	10	10	205,0	199	6,0	211	-6,0
Sodium	**Na +**	Alkali metal	Na-23	11	12	10	233,0	233	0,0	233	0,0
Magnesium	**Mg**	Alkaline earth metal	Mg-24	12	12	12	246,0	241	5,0	251	-5,0
Aluminium	**Al 3+**	Post-transition metal	Al-27	13	14	10	271,0	271	0,0	271	0,0
Silicon	**Si 4+**	Metalloid	Si-28	14	14	10	281,0	281	0,0	281	0,0
Silicon	**Si 4-**	Metalloid	Si-28	14	14	18	293,0	293	0,0	293	0,0
Sulfur	**S 2-**	Non-metal	S-32	16	16	18	331,0	331	0,0	331	0,0
Chlorine	**Cl -**	Halogen	Cl-35	17	18	18	359,0	359	0,0	359	0,0
Argon	**Ar**	Noble gas	Ar-40	18	22	18	405,0	401	4,0	409	-4,0
Potassium	**K +**	Alkali metal	K-39	19	20	18	397,0	397	0,0	397	0,0
Scandium	**Sc 3+**	Transition Metal	Sc-45	21	24	18	453,0	449	4,0	457	-4,0
Titanium	**Ti**	Transition Metal	Ti-48	22	26	22	487,0	487	0,0	487	0,0
Titanium (Berkeley Lab)	**Ti-50 12+**	Transition Metal	Ti-50	22	28	10	487,0	487	0,0	487	0,0
Vanadium	**V 5+**	Transition Metal	V-51	23	28	18	509,0	509	0,0	509	0,0
Manganese	**Mn 7+**	Transition Metal	Mn-55	25	30	18	547,0	547	0,0	547	0,0
Iron	**Fe 2+**	Transition Metal	Fe-56	26	30	24	566,0	563	3,0	569	-3,0
Iron	**Fe**	Transition Metal	Fe-56	26	30	26	569,0	569	0,0	569	0,0
Zinc	**Zn**	Transition metal	Zn-65	30	35	30	660,0	659	1,0	661	-1,0
Krypton	**Kr**	Noble gas	Kr-84	36	48	36	846,0	839	7,0	853	-7,0
Strontium	**Sr**	Alkaline earth metal	Sr-88	38	50	38	887,0	887	0,0	887	0,0
Ruthenium (synthetic)	**Ru 8+**	Transition Metal	Ru-102	44	58	36	1016,0	1013	3,0	1019	-3,0
Rhodium	**Rh 3+**	Transition Metal	Rh-103	45	58	42	1035,0	1031	4,0	1039	-4,0
Palladium	**Pd 2+**	Transition Metal	Pd-106	46	60	44	1066,0	1063	3,0	1069	-3,0
Indium	**In 3+**	Post-transition metal	In-115	49	66	46	1153,0	1153	0,0	1153	0,0
Tin	**Sn 2+**	Post-transition metal	Sn-119	50	69	48	1193,0	1193	0,0	1193	0,0
Iodine	**I 1-**	Halogen	I-127	53	74	54	1277,0	1277	0,0	1277	0,0
Barium	**Ba 2+**	Alkaline earth metal	Ba-137	56	81	54	1370,0	1367	3,0	1373	-3,0
Barium	**Ba**	Alkaline earth metal	Ba-137	56	81	56	1373,0	1373	0,0	1373	0,0
Platinum	**Pt**	Transition Metal	Pt-195	78	117	78	1950,0	1949	1,0	1951	-1,0
Thallium	**Tl 3+**	Post-transition metal	Tl-204	81	123	78	2034,0	2029	5,0	2039	-5,0
Polonium	**Po 4+**	Post-transition metal	Po-209	84	125	80	2085,0	2083	2,0	2087	-2,0
Polonium	**Po 2+**	Post-transition metal	Po-209	84	125	82	2088,0	2087	1,0	2089	-1,0
Radon	**Rn**	Noble gas	Rn-222	86	136	86	2213,0	2213	0,0	2213	0,0
Radium	**Ra 2+**	Alkaline earth metal	Ra-226	88	138	86	2251,0	2251	0,0	2251	0,0
Livermorium	**Lv**	Superheavy element	Lv-290	116	174	116	2900,0	2897	3,0	2903	-3,0

Some important elements in nature or in compounds exhibits a **“quantum equilibrium”**, where their value is a **prime number or** an **interprime** (equidistant between the previous and next prime).



To make element 116 (Lv-290, interprime value), researchers produced special isotopes of titanium (Ti 12+, prime value).

Credits: Berkeley Lab

newscenter.lbl.gov/2024/07/23/a-new-way-to-make-element-116-opens-the-door-to-heavier-atoms

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Use Case: Analyzing Biomaterials

Extracting new insights from molecules, and tracking changes in genetic expressions.

Name	Formula	C	H	N	O	P	Mg	S	Protons	Neutrons	Electrons	Value	Prev. prime	Dist. Prev. Prime	Next Prime	Dist. Next Prime
Citosine (C)	C4-H5-N3-O	4	5	3	1				58	53	58	1144.0	1129	15.0	1151	-7.0
Uracile (U)	C4-H4-N2-O2	4	4	2	2				58	54	58	1153.0	1153	0.0	1153	0.0
Timine (T)	C5-H6-N2-O2	5	6	2	2				66	60	66	1299.0	1297	2.0	1301	-2.0
Adenine (A)	C5-H5-N5	5	5	5					70	65	70	1390.0	1381	9.0	1399	-9.0
Guanine (G)	C5-H5-N5-O	5	5	5	1				78	73	78	1554.0	1553	1.0	1559	-5.0
C-G		9	10	8	2				136	126	136	2698.0	2693	5.0	2699	-1.0
U-G		9	9	7	3				136	127	136	2707.0	2707	0.0	2707	0.0
A-T		10	11	7	2				136	125	136	2689.0	2689	0.0	2689	0.0
A-U		9	9	7	2				128	119	128	2543.0	2543	0.0	2543	0.0
ATP	C10-H16-N5-O13-P3	10	16	5	13	3			260	247	260	5213.0	5213	0.0	5213	0.0
Chlorophyll A	C55-H72-O5-N4-Mg	55	72	4	5		1		482	410	482	9233.0	9233	0.0	9233	0.0
Chlorophyll B	C55-H70-O6-N4-Mg	55	70	4	6		1		488	418	488	9374.0	9371	3.0	9377	-3.0

Some of the most **important molecular structures** for life are **prime or interprime** numbers:

- The two **helices of DNA** are **connected** by **adenine-thymine** pairs (A-T, prime number) and **cytosine-guanine** pairs (C-G).
- During transcription, **DNA is copied into mRNA**, and **thymine (T, interprime) in DNA is replaced by uracil (U, prime) in mRNA**.
- **Cytosine can convert to uracil** (changing to a **prime number**) in a process called **deamination**, where C-G transforms to U-G.
- **Cells are programmed to repair the uracil damage in the DNA** before copying it into mRNA **to avoid further DNA damage.**

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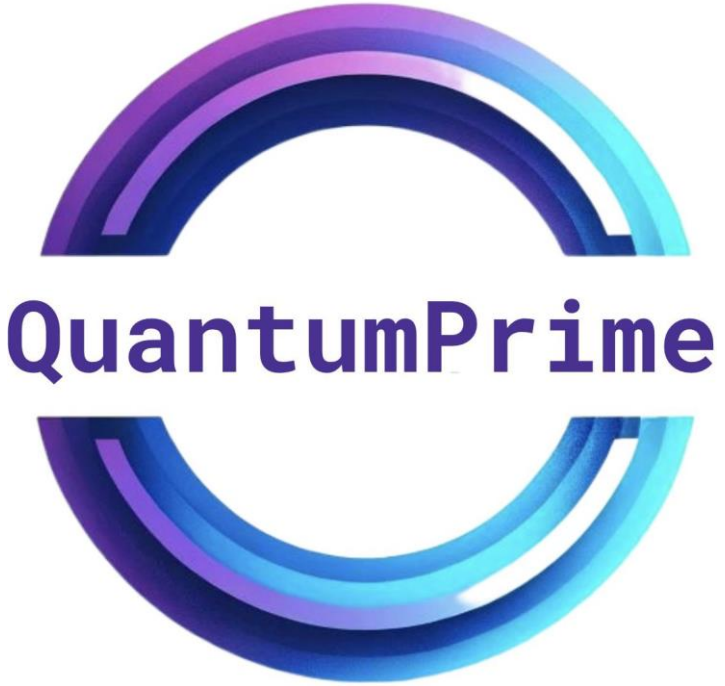

connect health

accuro TECHNOLOGY

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