HUNT & HACKETT

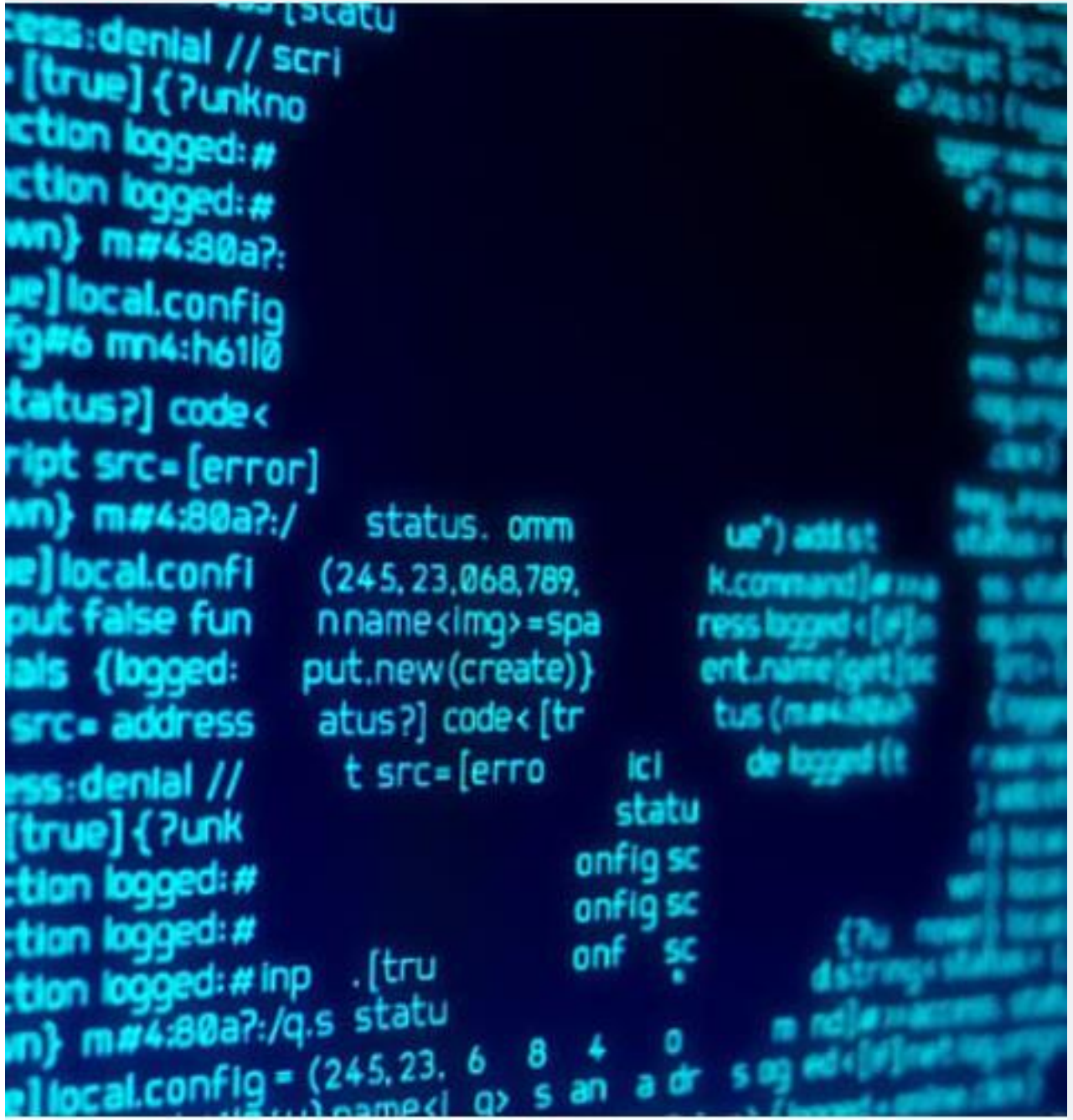
OUTSMART YOUR
DIGITAL ADVERSARIES

Attribution in Cyberspace

Ronald Prins

About me

- TU Delft Mathematics
- Netherlands Forensic Institute
- AIVD (Dutch Intelligence)
- Fox-IT Cyber Security
- TIB (Oversight of Intelligence Operations)
- Hunt & Hackett: Stopping Digital Espionage



Definition

Attribution can be broadly defined as the process of assigning responsibility for a (malicious) cyber activity to a specific actor on the basis of the available evidence, including all-source intelligence, forensic investigation, and taking into account the political context. Given the sensitive nature of such evidence and the implications that a decision about attribution might have on bilateral relations between the accuser and the accused, states maintain their exclusive right to attribute (or not) a cyber operation based on their own methods, procedures and political interests.

Dennis Broeders, Els De Busser and Patryk Pawlak

Goals of Attribution

- Persons behind an attack
- Motivations of these persons
- Ultimate sponsor of the Attack
- Prepare or Prevent next Attack
- (Cyber) Reaction

NOS Nieuws • Maandag 12 april 2021, 12:00 •
Aangepast maandag 12 april 2021, 13:49

'Kaas-hack' opgelost, ging om gijzelsoftware

The Washington Post
Democracy Dies in Darkness

The Dutch were a secret U.S. ally in war against Russian hackers, local media reveal

By Rick Noack

January 26, 2018 at 8:13 a.m. EST

deVolkskrant

Hackers AIVD leverden cruciaal bewijs over Russische inmenging in Amerikaanse verkiezingen

Digitale agenten van de AIVD infiltreren in de zomer van 2014 in de beruchte Russische hackgroep Cozy Bear. Ze zien zo als eersten hoe Russische hackers in verkiezingstijd doelen in de VS bestoken: de Democratische Partij, het ministerie van Buitenlandse Zaken en zelfs het Witte Huis. Het is cruciaal bewijs en aanleiding voor de FBI om een onderzoek te beginnen.

Huib Modderkolk 26 januari 2018, 17:00

The Netherlands considers Russia's GRU responsible for cyber attacks against Georgia

Diplomatic statement | 20-02-2020

The Netherlands shares the assessment of Georgia and international partners that the unwarranted large-scale and disruptive cyber attacks against Georgia that took place on 28 October 2019 were carried out by the GRU, Russia's military intelligence service.

The attacks resulted in widespread defacement of websites, including sites belonging to the Georgian government, courts, NGOs, media and businesses. These disruptive operations also interrupted the service of several national broadcasters. The GRU undermined Georgia's sovereignty and disrupted the lives of ordinary Georgian people.

These actions transgress the norms of responsible state behaviour in cyberspace, as agreed upon by the United Nations, and show contempt for the international rules-based order.

We will continue to strengthen resilience in the digital domain, for example by furthering our international cyber capacity building efforts. We are committed to working with all stakeholders to promote accountability in the digital domain.

WANTED BY THE FBI

APT 10 GROUP

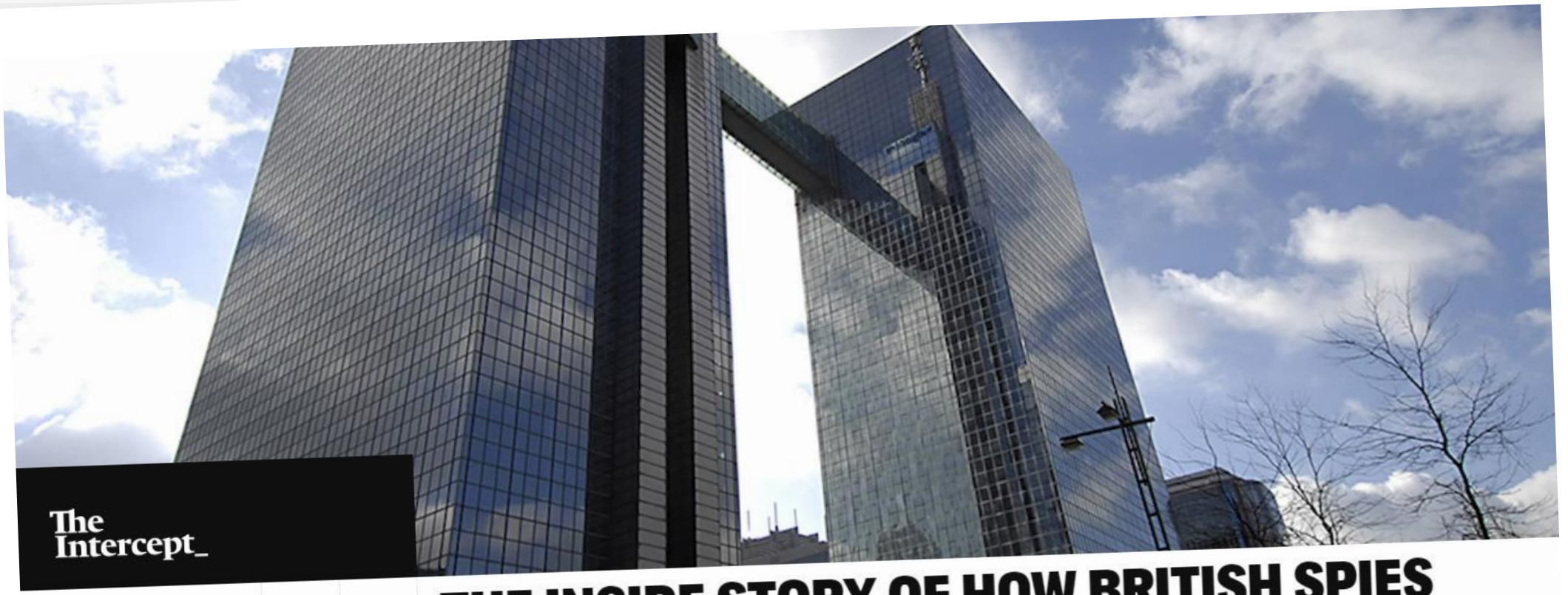
Conspiracy to Commit Computer Intrusions; Conspiracy to Commit Wire Fraud; Aggravated Identity Theft

ZHU HUA

ZHANG SHILONG

DETAILS

On December 17, 2018, a grand jury in the United States District Court for the Southern District of New York indicted ZHU HUA, aka "Afwar," aka "CVNX," aka "Alayos," aka "Godkiller," and ZHANG SHILONG, aka "Baobeilong," aka "Zhang Jianguo," aka "Atreexp," two members of a hacking group operating in China known in the cybersecurity community as Advanced Persistent Threat 10 (the "APT 10 Group"), with conspiracy to commit computer intrusion, conspiracy to commit wire fraud, and aggravated identity theft. The defendants worked for Huaying Haitai Science and Technology Development Company located in Tianjin, China, and they acted in association with the Chinese Ministry of State Security's Tianjin State Security Bureau.



The Intercept_

BECOME A MEMBER

THE INSIDE STORY OF HOW BRITISH SPIES HACKED BELGIUM'S LARGEST TELCO

The British government infected Belgacom with among the most advanced malware ever seen.

SPIEGEL International

Belgacom Attack

Britain's GCHQ Hacked Belgian Telecoms Firm

A cyber attack on Belgacom raised considerable attention last week. Documents leaked by Edward Snowden and seen by SPIEGEL indicate that Britain's GCHQ intelligence agency was responsible for the attack.

20.09.2013, 10.02 Uhr

TOP SECRET STRAP 2

One Month Later – OP SOCIALIST

- Scoping session conducted – main focus to be on enabling CNE access to **BELGACOM GRX Operator**
- **Ultimate Goal – enable CNE access to BELGACOM Core GRX Routers from which we can undertake MiTM operations against targets roaming using Smart Phones.**
- Secondary focus – breadth of knowledge on GRX Operators
- Operations Manager assigned, team assembles

NAC
NETWORK ANALYSIS CENTRE

De Standaard

‘Regering zal gepaste stappen ondernemen bij cyberspionage’

16/09/2013 om 10:01 door jvt

DigiNotar attack

Attribution by deduction

While Fox-IT did not accuse the Iranian government of conducting or sponsoring the attack, it made clear the motivation behind what it called "Operation Black Tulip."

"The list of domains and the fact that 99% of the users are in Iran suggest that the objective of the hackers is to intercept private information in Iran," the company said in its report.

Some security researchers have suspected that Iran's government was behind the certificate theft and subsequent attack since news broke a week ago. The Fox-IT report only reinforced their beliefs.

False Flag operations


CYBERCALIPHATE
Je suIS IS
TV5MONDE
Réseau de télévision
Journal
À propos
Photos
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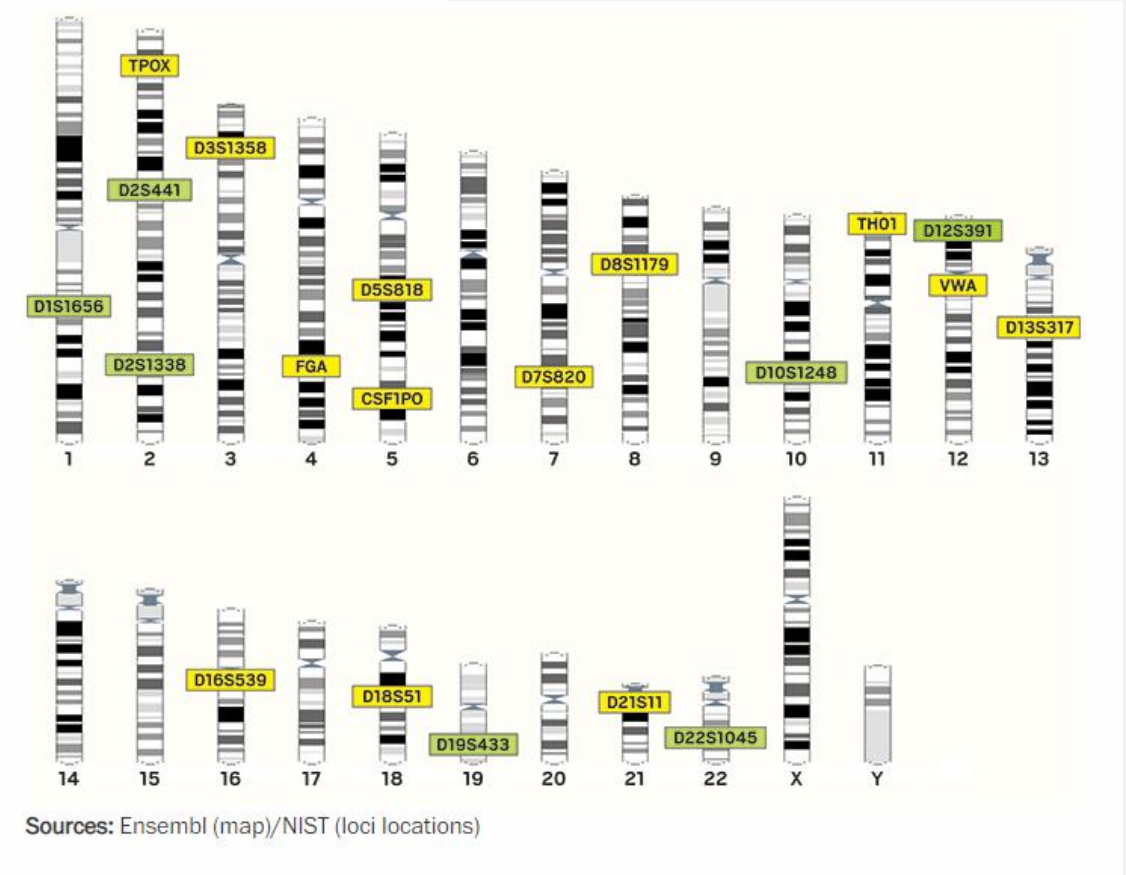
In London, the conclusion was that it was most likely an attempt to test forms of cyber-weaponry as part of an increasingly aggressive posture.

Tech

How France's TV5 was almost destroyed by 'Russian hackers'

Why is cyber attribution so difficult?



IP addresses won’t work

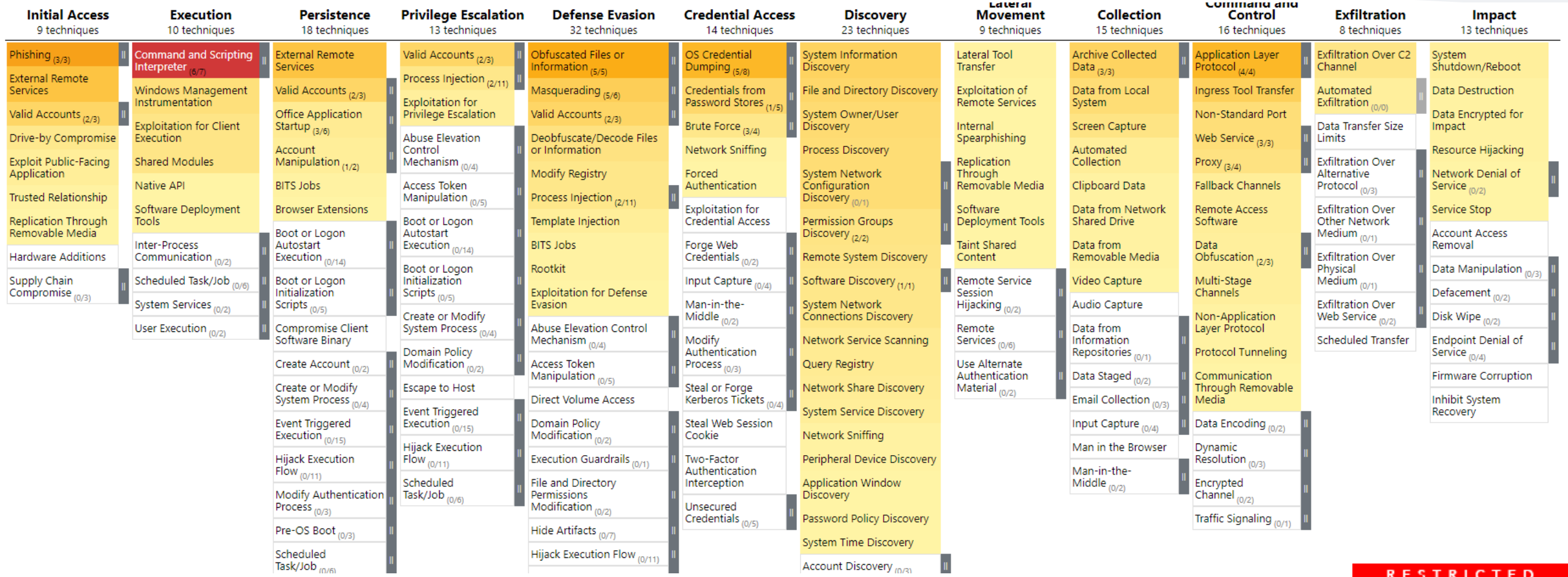
New law for Dutch Intelligence Services

Artikel 5

1. Bij een verzoek om toestemming als bedoeld in artikel 45, derde lid, juncto eerste lid, onder b, van de Wiv 2017 blijft het bepaalde in artikel 45, vierde lid, aanhef en onder a, van de Wiv 2017 buiten toepassing.
2. In aanvulling op het bepaalde in artikel 45, achtste lid, van de Wiv 2017, omvat de verleende toestemming tevens de bevoegdheid om, voor de duur van de verleende toestemming, binnen te dringen in een ander geautomatiseerd werk dat door de desbetreffende persoon of organisatie in gebruik is voor zover dat in de plaats treedt van of een aanvulling is op het geautomatiseerde werk waar oorspronkelijk de toestemming voor is verleend.
3. Van de toepassing van het tweede lid wordt terstond mededeling gedaan aan de afdeling toezicht.

Safeguarding against attack methods

ATTACK METHODS USED BY THE APTS FOCUSED ON A SECTOR



122 HOLIDAYS & CELEBRATIONS

to celebrate in 2022

JANUARY

1 New Year's Day
6 Epiphany (Christian)
14 International Kite Festival (India)
14 Makar Sankranti (Hindu)*
17 Kid Inventor's Day
26 Australia Day (Australia)
28 International Lego Day

FEBRUARY

1 Chinese New Year*
1 Lantern Festival (Taiwan)*
1 Black History Month begins (USA)
2 Candlemas (Christian)
4 Winter Olympics 2022 begin*
5 Sapporo Snow Festival (Japan)*
6 Waitangi Day (New Zealand)
12 Carnevale di Venezia (Italy)*
14 Valentine's Day
17 Random Acts of Kindness Day
27 International Polar Bear Day

MARCH

1 St David's Day (Wales)
1 Shrove Tuesday (Christian)*
3 Hinamatsuri (Japan)
3 World Wildlife Day
8 International Women's Day
14 Pi Day
17 St Patrick's Day
18 Holi (Hindu)*
20 World Storytelling Day
21 World Poetry Day
22 World Water Day

APRIL

1 April Fool's Day
2 International Children's Book Day
2 Ramadan begins (Islamic)*
5 Qingming Festival (China)*
13 Songkran begins (Thailand)
15 Good Friday (Christian)*
17 Easter Sunday (Christian)*
22 Earth Day
23 St George's Day (Europe)
23 Çocuk Bayrami (Turkey)
25 Anzac Day (Australia & New Zealand)
27 King's Day (Netherlands)

MAY

1 May Day
1 Vappu (Finland)
2 Eid al-Fitr begins (Islamic)*
4 Star Wars Day
5 Cinco de Mayo (Mexico)
5 Kodomo No Hi (Japan)
15 International Day of Families
16 Total Eclipse of the Moon*
20 World Bee Day

JUNE

3 Dragon Boat Festival (China)*
3 World Bicycle Day
5 World Environment Day
8 World Oceans Day
18 International Picnic Day
19 Juneteenth (USA)
20 World Refugee Day
21 World Music Day
22 World Rainforest Day
24 Inti Raymi (Peru)
24 Matariki (New Zealand)*
29 International Mud Day

JULY

1 Canada Day (Canada)
1 International Joke Day
3 NAIDOC Week (Australia)*
4 Independence Day (USA)
8 Calgary Stampede (Canada)*
10 Eid al-Adha (Islamic)*
11 Naadam Festival (Mongolia)*
14 Bastille Day (France)
30 International Day of Friendship

AUGUST

1 World Wide Web Day
11 Raksha Bandhan (Hindu)*
13 Obon (Buddhist)*
13 Left-Handers Day
14 Esala Perahera (Buddhist)*
18 Krishna Janmashtami (Hindu)*
19 World Photography Day
21 World Senior Citizen's Day
26 International Pet Day
31 La Tomatina (Spain)*

SEPTEMBER

5 International Day of Charity
6 Read a Book Day (USA)
8 International Literacy Day
10 Mid-Autumn (Moon) Festival (East & South East Asia)*
21 International Day of Peace
25 Rosh Hashanah (Jewish)*
29 Michaelmas (Christian)
29 World Maritime Day

OCTOBER

1 Albuquerque International Balloon Fiesta (USA)*
4 World Space Week begins
4 World Animal Day
4 Yom Kippur (Jewish)*
5 World Teacher's Day
10 World Mental Health Day
16 World Food Day
16 Dictionary Day (USA)
24 United Nations Day
24 Diwali (Hindu)*
31 Halloween

NOVEMBER

2 Dia de Muertos (Mexico)*
5 Guy Fawkes Night (UK)
8 Yi Peng Lantern Festival (Thailand)*
11 St Martin's Day (Europe)
11 Remembrance Day
11 World Origami Day
13 World Kindness Day
15 Shichi-Go-San (Japan)
17 Take a Hike Day (USA)
20 Universal Children's Day
24 Thanksgiving (USA)*
30 St Andrew's Day (Scotland)

DECEMBER

6 St Nicholas' Day (Europe)
7 Día de las Velitas (Colombia)
13 St Lucia Day (Europe)
16 Las Posadas (Mexico)
18 Hanukkah (Jewish)*
24 Jolabokaflod (Iceland)
25 Christmas
26 Kwaanza (USA)
31 New Year's Eve
31 Hogmanay (Scotland)

Closing remarks

- Attribution is not something you can do yourself. Most of the time you'll need resources like an intelligenc agency has.
- Attribution in cyberspace is very different from the forensics you see in a court of law.
- Intelligence agencies are not willing to share all the evidence. If they share something it will be just the conclusion.
- Nation States use this input for some kind of reaction. ☺

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