TRANSGRESSION Overview for Pod58

[redacted]

S31177

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TRANSGRESSION Charter

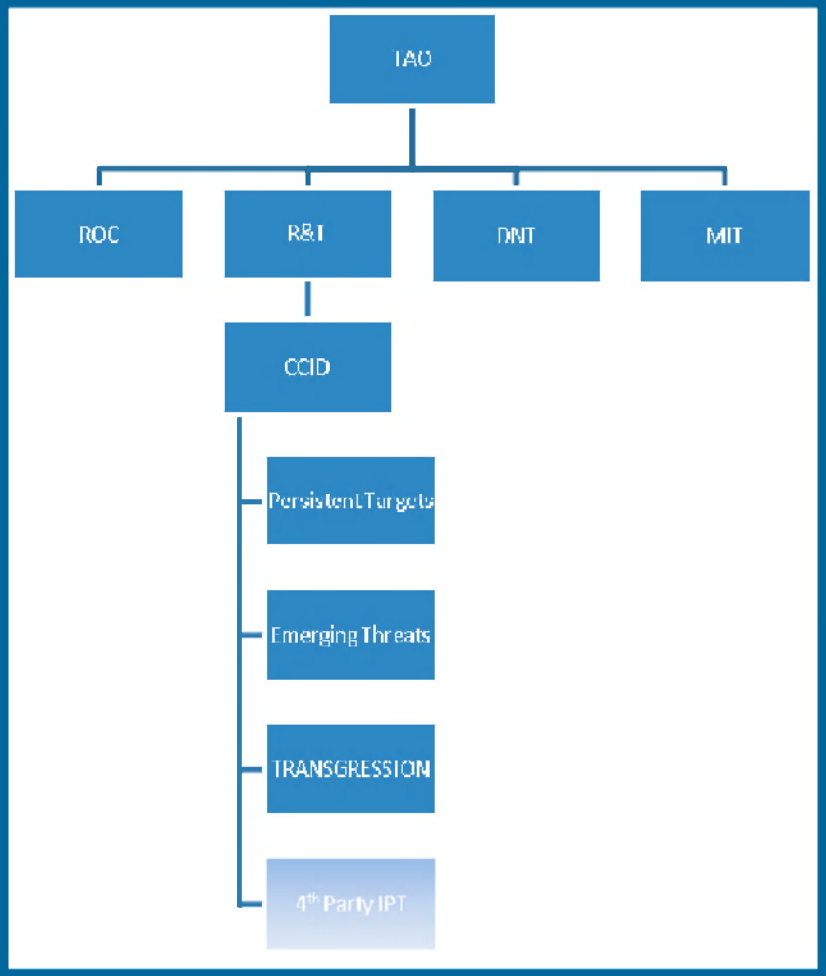
Original:

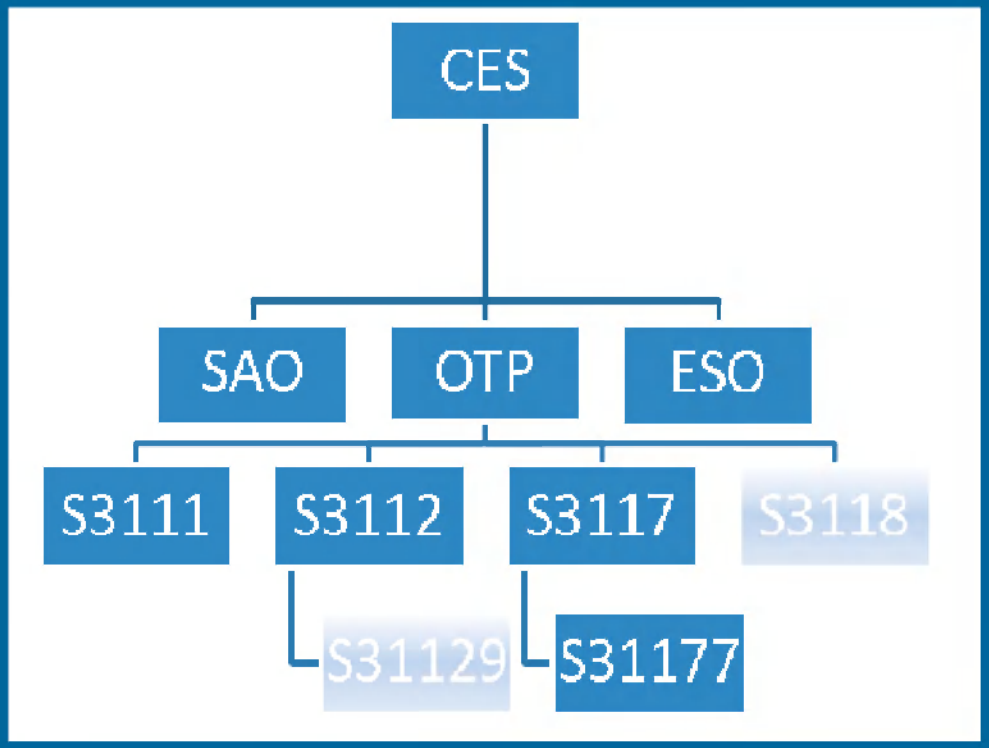
Discover, understand, evaluate, and exploit foreign CNE/CNA exploits, implants, command & control and exfiltration.

Moving Forward:

Provide cryptanalytic exploitation support for Network Defense (NTOC and IAD), 4th Party SIGINT (S2, NTOC and TAO), and Cyber (TAO, RATWHARF) missions.

Organizational Structure





Personnel

- [redacted] – Branch Chief
- [redacted] – Team Lead/TD
- [redacted] – OTP CNE Co-Lead
- [redacted] – MAKERSMARK Lead
- [redacted] – BYZANTINE HADES Lead
- [redacted] – VOYEUR/Iran Lead
- [redacted] – Malware Lead
- [redacted] – Emerging Threats Lead
- [redacted] – MAKERSMARK, RDP Lead
- 1 CADP, 2 CMP (including DSD Integree), 1 RSE, 2 NIE, 2 STDP

Major Intrusion Set Efforts

- MAKERSMARK
  - Enable WALKERBLACK/RED exploitation/improve collection
  - CROWNROYAL, CROWNPRINCE, SHEPHERD, Zebedee
- BYZANTINE HADES
  - NetDef RDP exploitation
  - Trojan/beacon deobfuscation
  - MAVERICK CHURCH PPTP, POPROCKS
- VOYEUR (GHOSTRECON
  - Victim Exfil
  - SSL Collection
- NIGHTTRAIN
  - Decryption and processing of TAO exfil and passive collect
  - SRE of malware
- SHADOWDRAGON
  - RDP and password recovery
  - FAA password recovery
- RECORDER
  - Processing and decryption of passive collect
- PLAIDDIANA/INCAADAM
  - Deobfuscation of passive collect
- TWEEZERS
  - Processing and decryption of passive collect
- SNOWGLOBE
  - Processing and decryption of passive collect
- WIDOWKEY/SUPERDRAKE
  - Future processing and decryption
- Numerous other watchlist intrusion sets
- Many one off customer requests – cyber cryptanalysis support

XKEYSCORE:
A Critical TRANSGRESSION Tool

- Over 50 daily workflows
  - SIGINT and POLARSTARKEY (NetDef)
- Fingerprints and Microplugins
- GUI Workflows and Webservice

Our Modernization Efforts

- XKS Webservice
- xksql and xkproc
- tfsql and tfproc

A Modernization Example

- Victim →
- LP →
- TAO Op →
- TUNINGFORK →
- TRANSGRESSION →
- SCISSORS →
- PINWALE and Cloud

Where does our data come from?

- XKEYSCORE
- TUNINGFORK
- TAO Direct
- NTOC Internal
- NTOC External
  - AFOSI/NCIS
  - FBI
  - Cyber Command

What Kinds of Data?
(What is the plaintext)

- Command & Control
  - RDP, RAdmin (*heavyweight*)
  - many home-grown (*lightweight*)
- File Transfer
  - Actor → Victim (malware)
  - Victim → Actor (exfil)
- Email
- Credentials

What Kinds of Encryption? 1 - “Commercial”

- SSL/TLS
- SSH
- PGP
- PPTP
- RDP / RAdmin

What Kinds of Encryption? 2 – Other

- Block Ciphers (DES, 3DES)
- Stream Ciphers (RC4)
- Masking
  - short or long, fixed or variable
- Layered Encryption

Crypt Examples: Layered Encryption

- BYZANTINE FOOTHOLD
  - SSH
  - Mod DES
- WIDOWKEY
  - Single Byte XOR
    - Fixed Key mask
    - 3DES

Crypt Examples: Setting Key

- Fixed (ADJUTANT VENTURE)
- From Message Header (RAPTOR ROLEX)
- From Packet Headers (RAPTOR JOY/SAD)

(U//FOUO) Who to Contact?

Email:

[redacted]

Wiki:

[redacted]

Encodings

- None (raw binary)
- base64
- Modified base64 (BYZANTINE RAPTOR)

  permutation of the 64 base64 characters
- HTML Character encoding (ADJUTANT VENTURE)

  e.g., 0x1278cd = '&#18;x&#205'