



TRANSGRESSION Overview for Pod58

S31177 7 Feb 2010

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TOPSECRET//COMINT//REL TO USA, FVEY



TRANSGRESSION Charter



Original:

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

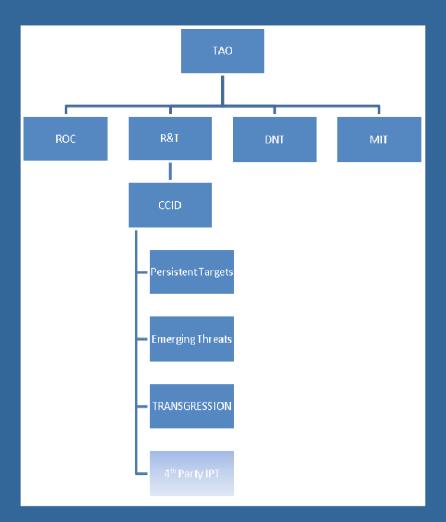
Moving Forward:

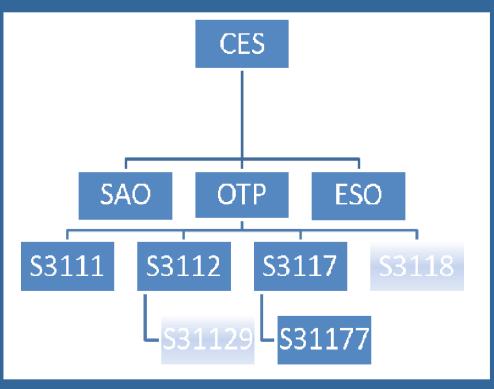
Provide cryptanalytic exploitation support for Network Defense (NTOC and IAD), 4th Party SIGINT (S2, NTOC and TAO), and Cyber (TAO, RATWHARF) missions.



Organizational Structure









Personnel



- Branch Chief
- Team Lead/TD
- OTP CNE Co-Lead
- MAKERSMARK Lead
- BYZANTINE HADES Lead
- VOYEUR/Iran Lead
- Malware Lead
- Emerging Threats Lead
- 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 exfilence
 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

Target

- 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:

Wiki:



Encodings



- None (raw binary)
- base64
- Modified base64 (BYZANTINE RAPTOR)
 - A permutation of the 64 base64 characters
- HTML Character encoding (ADJUTANT VENTURE)
 - e.g., 0x1278cd = ' x Í'