HORSE TRAP

A simulated insider privilege escalation

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What is it?

An insider attack simulation targeting vulnerable user data inside an unauthorized workstation

Demonstration of a trojan horse and persistence

Exploration of data analysis and lessons learned

Why it matters...

60% of data breaches are caused by an inside threat

Harder to detect as a threat

Easier to attack network if you already have access to sensitive data

In 2020 , GE was the victim of an insider attack by two of their employees

Setting the Stage

Disgruntled HR employee

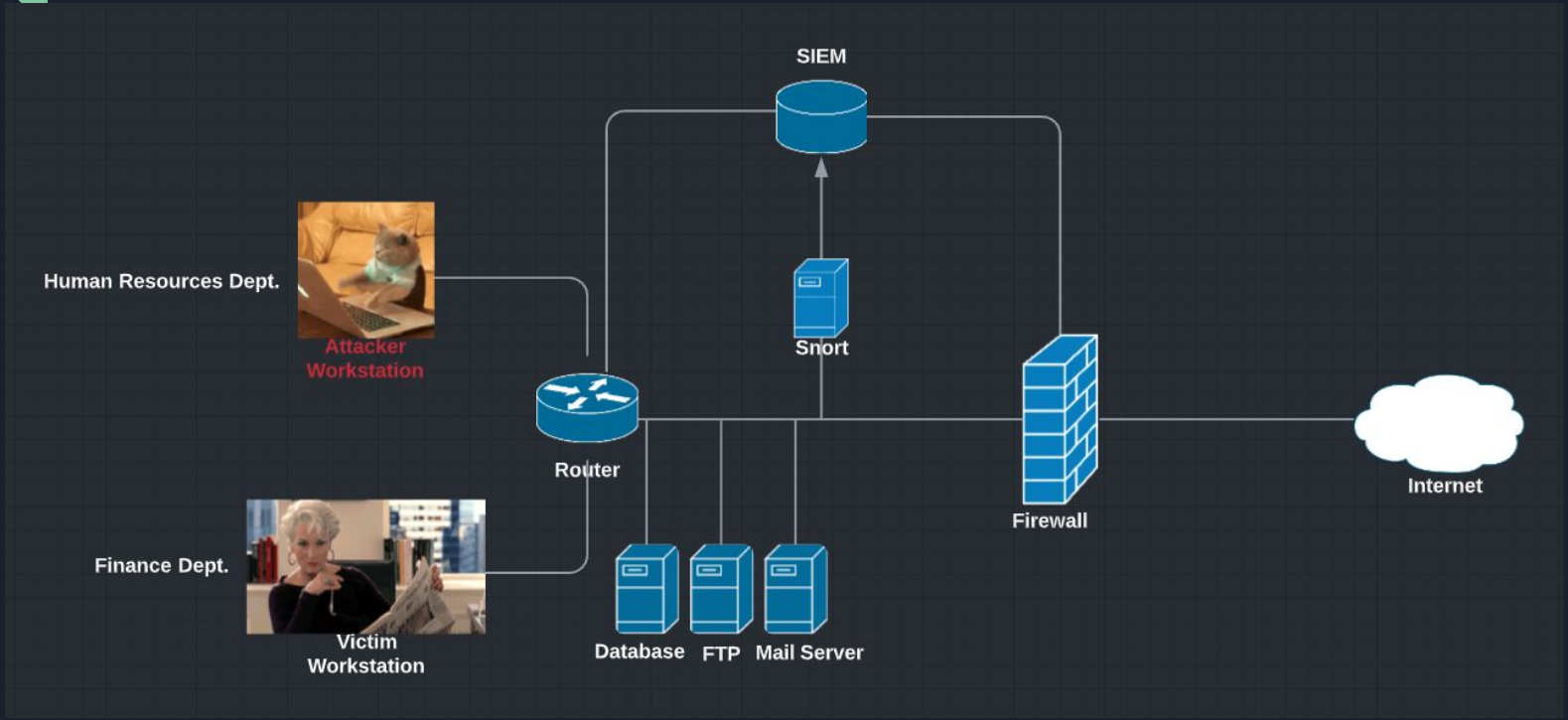
Wants to steal information /assets

Plans to start their own company

Target the head of the finance department to get what they need

OnJvdWdodCBObyB5b3UgYnkgQSBTZWNyZXQgT3JnYW5penF0aW9uCg==

The Network


SIEM
Human Resources Dept.
Attacker Workstation
Snort
Router
Firewall
Internet
Finance Dept.
Victim Workstation
Database
FTP
Mail Server

Shortcomings

>	8/10/21 1:28:48.000 PM	1332016697.210000	CyEd9z3v2QM9aIBfbd	192.168.202.69	37012	192.168.28.253	22	undetermined	INBOUND	SSH-2.0-OpenSSH_5.0	SSH-2.0-OpenSSH_4.5	-	-	-	-
>	8/10/21 1:28:48.000 PM	1332017793.040000	CrUTZx1hjVk1qFFTl1	192.168.202.136	56815	192.168.21.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332017778.370000	CZhG1136uZbVNG8uYl	192.168.202.136	56814	192.168.21.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332017154.520000	C0XOE9Wej5K5IETpj	192.168.202.136	56802	192.168.21.203	22	undetermined	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3				
>	8/10/21 1:28:48.000 PM	1332017111.420000	CB4eVG4sDCR1pFqRa	192.168.202.136	41186	192.168.27.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332017087.510000	COkT4dasAfZ4hxP9i	192.168.202.136	41184	192.168.27.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332017090.970000	CWOyQE1tr8Gkjj1S9	192.168.202.136	44979	192.168.23.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332017064.540000	C6JLwj3NSXO2Ee4Pfl	192.168.202.136	44977	192.168.23.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332016823.610000	CU6TCB38KBrcWLkfId	192.168.202.136	51460	192.168.25.203	22	success	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332016795.530000	CyVZs24LSB0hOqp4Fb	192.168.202.136	41175	192.168.27.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332016778.080000	CC9PBGvy2Vv9n9DQ8	192.168.202.136	51551	192.168.26.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332016737.580000	CEe3kw3synlnWIGhG3	192.168.202.136	51549	192.168.26.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332016700.300000	CxOBoskLu4U3BztR7	192.168.202.136	41171	192.168.27.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.3p1 Debian-3ubuntu7	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-			
>	8/10/21 1:28:48.000 PM	1332016697.140000	C1DGv73pPwLrLznhk	192.168.202.69	36782	192.168.26.203	22	failure	INBOUND	SSH-2.0-OpenSSH_5.0	SSH-2.0-OpenSSH_5.8p1 Debian-1ubuntu3	-	-	-	

kali@kali: ~/Blue_Team_06_IPS_IDS_Snort

File Actions Edit View Help

```
alert ip $EXTERNAL_NET $SHELLCODE_PORTS → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD SPARC Reverse shell (SPARC Encoded 1)"; content:"
5; classtype:shellcode-detect; sid:2010435; rev:3; metadata:affected_product Any, attack_target Client_and_Server, created_at 2010_07_30, de
t, updated_at 2016_07_01;)

alert ip $EXTERNAL_NET $SHELLCODE_PORTS → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD SPARC Reverse shell (SPARC Encoded 2)"; content:"
6; classtype:shellcode-detect; sid:2010436; rev:3; metadata:affected_product Any, attack_target Client_and_Server, created_at 2010_07_30, de
t, updated_at 2016_07_01;)

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Countdown Encoded 2)"; content:"|82 ed 5f 4c 5d 52
10385; rev:4; metadata:affected_product Any, attack_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment Intern

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Countdown Encoded 3)"; content:"|9f 90 4b ef a3 76
10386; rev:3; metadata:affected_product Any, attack_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment Intern

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Countdown Encoded 4)"; content:"|64 65 f8 b6 7e 41
10387; rev:3; metadata:affected_product Any, attack_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment Intern

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Countdown Encoded 5)"; content:"|17 1c 1a 19 fb 77
uct Any, attack_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment Internet, deployment Internal, deployment

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Pex Encoded 1)"; content:"|c9 83 e9 ec e8 ff ff ff
ffected_product Any, attack_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment Internet, deployment Internal,

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Pex Encoded 2)"; content:"|83 ee fc e2 f4|"; refer
_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment Internet, deployment Internal, deployment Datacenter, sig

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Not Encoded 1)"; content:"|6a 61 58 99 52 68 10 02
y, attack_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment Internet, deployment Internal, deployment Datace

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Not Encoded 3)"; content:"|80 b0 6a cd 80 52 53 52
 rev:3; metadata:affected_product Any, attack_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment Internet, de

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Not Encoded 4)"; content:"|57 51 cd 80 49 79 f5 50
 rev:3; metadata:affected_product Any, attack_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment Internet, de

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Not Encoded 5)"; content:"|50 54 53 53 b0 3b cd 80
y, attack_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment Internet, deployment Internal, deployment Datace

alert ip $EXTERNAL_NET any → $HOME_NET any (msg:"ET SHELLCODE METASPLOIT BSD Bind shell (Pex Alphanumeric Encoded 1)"; content:"|eb 03 59 e
 sid:2010396; rev:3; metadata:affected_product Any, attack_target Client_and_Server, created_at 2010_07_30, deployment Perimeter, deployment
```

Conclusion

1. What is your organization’s strategy for insider threats?

2. Are there gaps in your network that an insider can take advantage of?

3. A strong security posture is dynamic; new threats emerge everyday that can directly compromise your business from the inside

Resources

5 real-life examples of breaches caused by insider threats. 5 Real-Life Examples of Insider Threat-Caused Breaches | Ekran System. (2020, December 15). https://www.ekransystem.com/en/blog/real-life-examples-insider-threat-caused-breaches.

academy, A. A. (2020, December 2). *Incident response case: From ssh tunnel to endpoint analysis*. Medium. https://alparslanakyildiz.medium.com/incident-response-case-from-ssh-tunnel-to-endpoint-analysis-a4a7c9d0b67d

Peter Draper Technical director at Gurucul. (2020, January 7). *How social engineering is changing the insider Threat Game*. Infosecurity Magazine. https://www.infosecurity-magazine.com/opinions/social-engineering-insider-threat/

Phishing: Spearphishing Attachment. Phishing: Spearphishing Attachment, Sub-technique T1566.001 - Enterprise | MITRE ATT&CK®. (n.d.). https://attack.mitre.org/techniques/T1566/001/

You can view our project at: **https://github.com/Luzonica/projects**