Chinese APT Group Axiom Is Highly Technical and Disciplined

Group exhibits rarely seen level of sophistication

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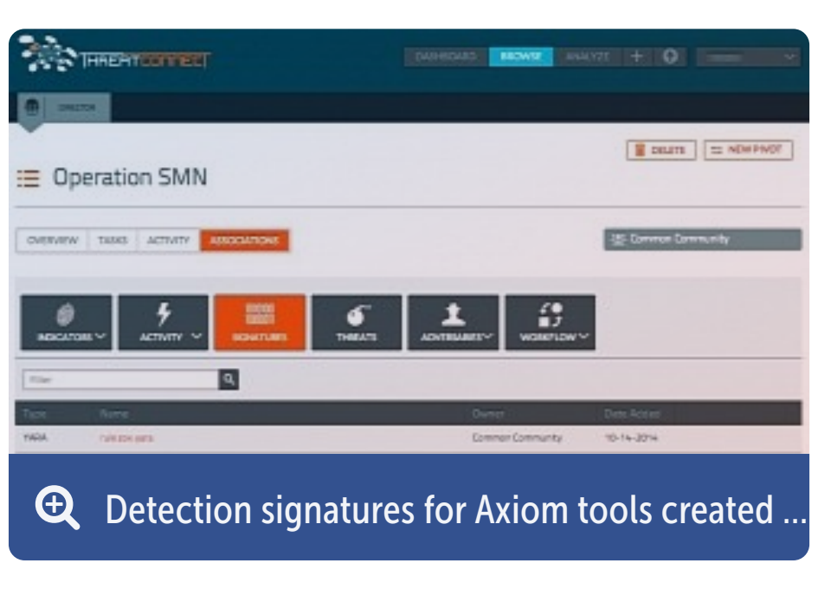
The Chinese cyber espionage group Axiom, whose activity was detailed on Tuesday, is said to have directed attacks towards a wide set of organizations across the world, also being responsible for resonant cyber incidents in the US that occurred in the past six years.



Detection signatures for Axiom tools created ...

The information about the threat actor has been collected into a common threat intelligence database from multiple private security firms; they gathered into a coordinated action named Operation SMN in order to disrupt the activity of Axiom.

Part of the coalition are Cisco, FireEye, F-Secure, iSIGHT Partners, Microsoft, Tenable, ThreatConnect, ThreatTrack Security, Volexity, Novetta, and Symantec.

Significant attacks linked to Axiom identified since 2009

As a result of this effort, signatures were created for detecting the malicious tools wielded by Axiom, and delivered to partners for protecting their customers, through Microsoft's Virus Information Alliance (VIA), a collaborative security program dedicated to the fight against cybercrime.

From the pool of common intelligence, Operation SMN identified several malicious events that shared similar tactics, techniques and procedures (TTP) with Axiom. These include incidents that go as far back as 2009: Operation Aurora, Elderwood Project, VOHO campaign, Bit9 compromise, Shell Crew, Deputy Dog, Ephemeral Hydra, and Operation Snowman.

According to a report from Novetta, the company leading the Operation SMN campaign, in carrying out these attacks, Axiom relied on a wide set of methods that involved the use of critical zero-day vulnerabilities (either developed in-house or acquired from third parties), leveraging the watering-hole compromise technique or stealing digital certificates, all pointing to a rarely seen level of technical, organizational and operational skills.

Furthermore, some of the tools and infrastructure used for these attacks are the same the ones attributed to the Chinese advanced persistent threat group.

A full compromise follows multiple attack stages

The report reveals that full compromise of a target was achieved through multiple attack stages, which could be performed by other groups associated with Axiom, culminating with the delivery of Hikit rootkit, responsible for data exfiltration.

In the first step, identification of the target and general reconnaissance activity is initiated, followed by the initial access, validation and exploring the internal target.

Additional endeavors refer to expanding to other machines in the network and achieving persistency. The fourth stage supposes identification of the data of interest and exfiltrating it.

A fifth stage ensues, which consists in maintaining access to the target and understanding the environment, for future exploration.

Axiom would manage large numbers of compromised machines and analyze them sometimes in a matter of hours in order to determine the organizations of interest and start the second stage of the attack.

Separate tools are used for each attack stage

The group would leverage the following tools in their effort to compromise a target: Zox family/Gresim, Hikit, Derusbi, Fexel/Deputy Dog, Hydraq/9002/Naid/Roarur/Mdmbot, ZXShell/Sensode, PlugX/Sogu/Kaba/Korplug/DestroyRAT, Gh0st/Moudour/Mydoor and Poison Ivy/Darkmoon/Breut.

Interesting to note is that each attack stage would rely on a different infrastructure and tool set, which was often dictated by the type of the target. Moreover, there would be no connection between the network used in the first level of compromise and the later stages.

This adds to the several evasion techniques used by Axiom, which also involve relying on Hikit binaries customized for each victim and isolating the command and control (C&C) servers for each target.

Operation SMN managed to remove from the computer systems of partners more than 43,000 installations of tools relating to Axiom. In 180 cases, the infection was with Hikit, which translates into the amount of instances of late-stage compromise from Axiom.

“For Stage 3 and 4 operations, Axiom is believed to have established a complex C2 infrastructure, which, based on campaign identifiers extracted from configuration files embedded in Hikit binaries, has been used to manage at least 76 unique campaigns that this operation has discovered. Operation SMN partners believe that many more organizations have been affected by Axiom, but are currently unaware of any compromise due to Axiom’s hyper targeting and stealth at this stage of activities,” the report says.

#Operation SMN, #Axiom, #cyber espionage, #Hikit

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