

Raytheon Blackbird Technologies

**20150814-259-Eset
Liberty**

**For
SIRIUS Task Order PIQUE**

**Submitted to:
U.S. Government**

**Submitted by:
Raytheon Blackbird Technologies, Inc.
13900 Lincoln Park Drive
Suite 400
Herndon, VA 20171**

14 August 2015

This document includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed—in whole or in part—for any purpose other than to evaluate this concept. If, however, a contract is awarded to Blackbird as a result of—or in connection with—the submission of these data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in these data if they are obtained from another source without restriction.

This document contains commercial or financial information, or trade secrets, of Raytheon Blackbird Technologies, Inc. that are confidential and exempt from disclosure to the public under the Freedom of Information Act, 5 U.S.C. 552(b)(4), and unlawful disclosure thereof is a violation of the Trade Secrets Act, 18 U.S.C. 1905. Public disclosure of any such information or trade secrets shall not be made without the prior written permission of Raytheon Blackbird Technologies, Inc.

(U) Table of Contents

1.0 (U) Analysis Summary	1
2.0 (U) Description of the Technique	1
3.0 (U) Identification of Affected Applications	1
4.0 (U) Related Techniques.....	1
5.0 (U) Configurable Parameters	1
6.0 (U) Exploitation Method and Vectors.....	1
7.0 (U) Caveats	2
8.0 (U) Risks	2
9.0 (U) Recommendations	2

1.0 (U) Analysis Summary

(S//NF) The following report discusses Operation Libery which was comprised of Botnet activity in Latin America that lasted eight months. The operation used a very simple keylogger that was delivered via an email attachment and propagated through USB memory sticks.

(S//NF) The Libery keylogger is a Python script compiled with PyInstaller. This packing methodology allowed for a simple unpacking of the executable resulting in the fully readable Python script. The keylogger gains persistence by writing a key to the registry. It periodically calls out to a hard coded update URL to obtain a new command and control (C2) URL or to send information to the C2 server. Libery creates an HTML based log file and transmits this file over port 80 using HTTP. This communication method also makes it easy for analysts to understand the data that is being sent. The second version of this keylogger added the ability to download and install other pieces of malware on the infected system.

(S//NF) Libery propagated through spam email campaigns and through USB memory sticks. The keylogger would copy all files on the USB drive to a hidden folder on that drive. It would then create links to the original files. When the user would click on the link the machine would become infected.

(S//NF) In conclusion, this report detailed a very simple keylogger that propagates via known USB memory stick methods. As such no PoC is recommended.

2.0 (U) Description of the Technique

(S//NF) No techniques are recommended for PoC development.

3.0 (U) Identification of Affected Applications

(U) Windows

4.0 (U) Related Techniques

(S//NF) Keylogger

5.0 (U) Configurable Parameters

(U) None

6.0 (U) Exploitation Method and Vectors

(S//NF) No exploitation methods were discussed in this report.

7.0 (U) Caveats

(U) None.

8.0 (U) Risks

(S//NF) Not applicable because we do not recommend any techniques for PoC development.

9.0 (U) Recommendations

(S//NF) No PoCs recommended.