MARYMOUNT UNIVERSITY

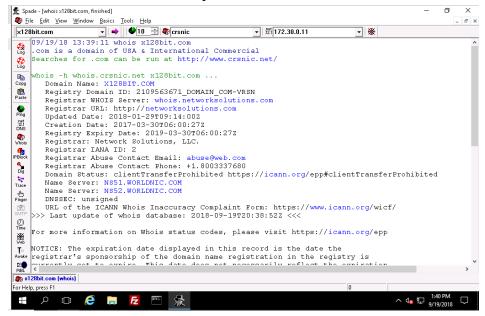
Assignment: IT557; Monitoring, Auditing, and Penetration Testing

Assigned: Sep. 23, 2018 Instructor: Professor Ali Bicak Student Name: George Boakye

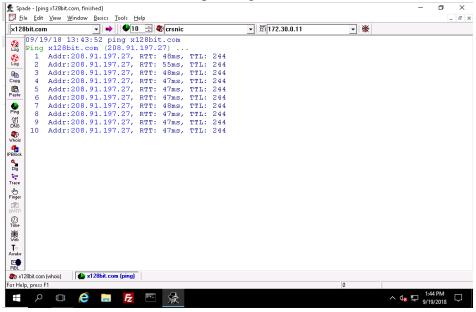
LAB REPORT FILE (LAB3)

SECTION 1

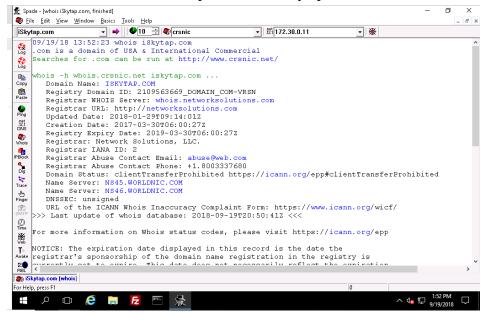
Part 1: Step4: Whois x128bit.com



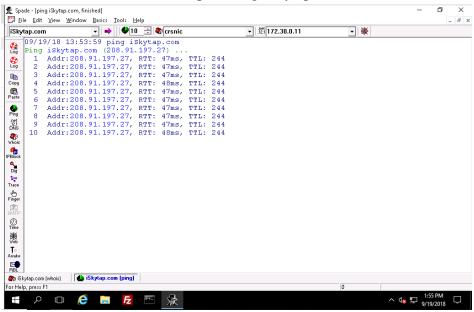
Part 1: Step8: Ping x128bit.com



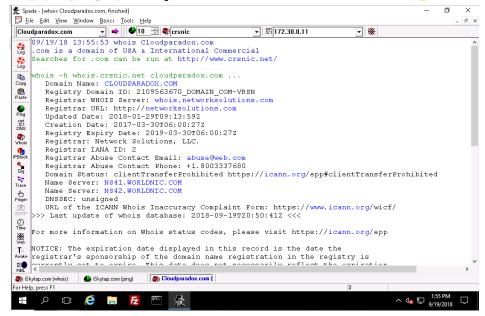
Part 1: Step13: Whois iSkytap.com



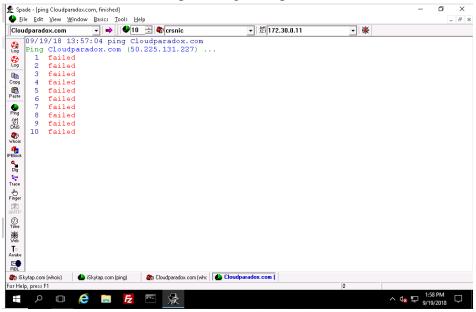
Part 1: Step13: Ping iSkytap.com



Part 1: Step13: Whois Cloudparadox.com



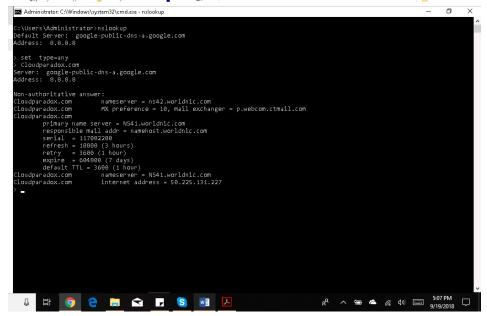
Part 1: Step13: Ping cloudparadox.com



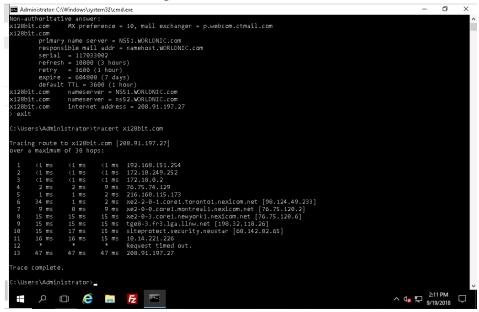
Part 1: Step20: Nslookup result for x128bit.com

Part 1: Step21: Nslookup result for iSkytap.com

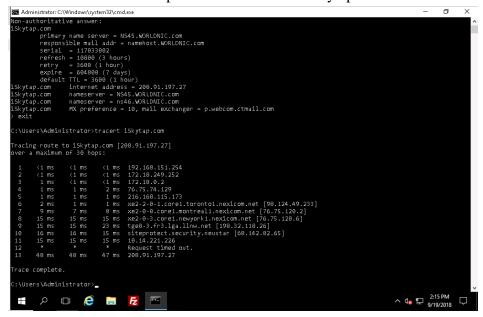
Part 1: Step21: Nslookup result for cloudparadox.com



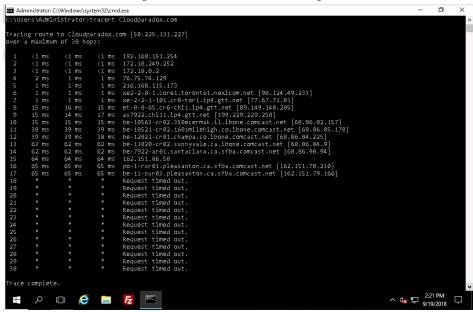
Part 1: Step24: tracert result for x128bit.com



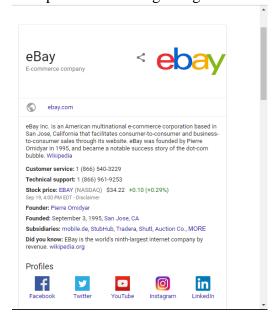
Part 1: Step25: tracert result for iSkytap.com



Part 1: Step25: tracert result for cloudparadox.com



Part 2: Step4: Name of Target Organization: eBay



Part 2: Step4: Domain Name & Extension <u>ebay.com</u>

Part 2: Step4: eBay URL & Social Networking Sites

https://www.ebay.com/

https://twitter.com/eBayIncCareers

https://www.facebook.com/ebaycareers

https://www.instagram.com/lifeatebay/

https://www.linkedin.com/company/ebay/

https://www.glassdoor.com/Overview/Working-at-eBay-EI_IE7853.11,15.htm

Part 2: Step4: Physical Address of eBay Headquarters

eBay Headquarters 2025 Hamilton Avenue San Jose, California 95125 USA

Web view of eBay HQ

ebay Our Company Join Our Team Press Room Follow Us Contact Us Q. Contact Us eBay Headquarters 2025 Hamilton Avenue San Jose, California 95125 USA Get Directions **Customer Service Contacts** Media & Press Contacts Careers Contacts If you're a member of the press with editorial Interested in joining us? Get in touch with our Need help? Contact our Customer Service team inquiries, please contact our Media and Press

Google Map view of eBay HQ



Part 2: Step4: Information about Officers

EXECUTIVE LEADERS



Devin Wenig



Alessandro Coppo SVP, General Manager, eBay Classifieds Group



Scott Cutler SVP, Americas



Steve Fisher



Marie Oh Huber SVP Legal Affairs, General Counsel & Secretary



Wendy Jones



Jay Lee



Kris Miller SVP, Chief Strategy Officer



Jooman Park



Mohan Patt VP, Core Product Experience



Mazen Rawashdeh VP, Platform Engineering



Scott Schenkel



Sukhinder Singh Cassidy SVP & President, StubHub



Dan Tarman SVP, Chief Communications Officer



Kristin Yetto
SVP, Chief People Officer

Part 2: Step4: Number of employees and each physical location

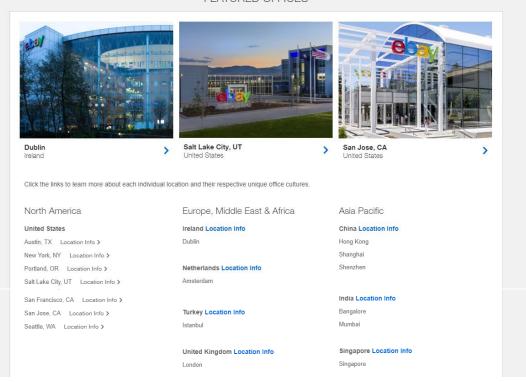
Fast Facts

eBay Inc. By The Numbers

Collectively, we connect millions of buyers and sellers around the world

eBay Inc. is a global commerce leader, which includes our Marketplace, StubHub and Classifieds platforms. Collectively, we connect millions of buyers and sellers around the world. The technologies and services that power our platforms are designed to enable sellers worldwide to organize and offer their inventory for sales, and buyers to find and purchase it, virtually anytime and anywhere. eBay Inc. employs approximately 14,100 people globally 1.

FEATURED OFFICES



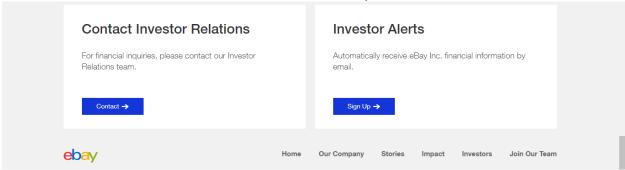
Part 2: Step4: eBay Investors

Top 4 eBay shareholders. This information is restricted on ebay.com domain

Names	# of Shares
Pierre Omidyar	58.5m as of April 4, 2018
John Donahoe	823,896 as of July 17, 2015
Devin N. Wenig	702,053 as of June 15, 2018
Michael Jacobson	518,559 as of July 15, 2017

Pines (2018)

Investor search from eBay domain



Part 2: Step4:

HACKING RESEARCH REPORT

A. Executive Summary

Data gathering and footprinting on x128bit.com, iSkytap.com, cloudparadox.com, ebay.com, and issaseries.com domains proved to be legitimate and responded to some queries. Queries such as ping, traceroute, nslookup, Whois, and public domain search (Google) provided some valuable information. Common among the gathered and footprints are the specific locations of the IP addresses, owners of the domains, shareholders and number of shares held, and the regional registrars.

While some of the domains could suffer vishing attack, eBay could be highly prone to whaling attack. The fact that eBay has thrown almost every information about top management out there and is freely available, makes it easy for targeted senior level attack. Iskytap.com does similar by publishing its most sensitive routes and SOA information. It's also worth noting that except cloudparadox.com which denied ping query, almost all the other domains could be subjected to ping flood attack which can lead to a DOS attack

It can also be noted that of all the listed domains, issaseries.com and cloudparadox.com seem to have instituted some form of security measures by way of limiting the amount of information published and the ping domain query respectively.

B. Methodology

Ping command sent series of packet to the target hosts to verify if they were available for connection. Cloudparadox.com ping returned failed because the host (50.225.131.227) was configured to drop ICMP packets.

Traceroute was used in the footprinting processes of the three fictitious companies to identify the network path which must be followed to get to a system, provided the names and IP addresses of all intermediate systems and helped identify potential attack points. Whois command has offered

very vital information about the companies such as the domain owner, either real or disguised and included contact names; addresses; numbers as well as names of associated servers (e.g. Part1 Step13: Cloudparadox.com which even included how to report abuse). The Nslookup command helped to obtain information about the internet servers (Owners of systems). It found name server information for all domains by querying their respective DNS which revealed that some domains were registered to one primary server name (i.e. worldnic.com).

Google Hacking was used to gather as many information about eBay as possible and yielded enough information to lead an attacker plan and execute attack. Google provided an aerial view of the eBay Headquarters, Social Media Sites, information about Management and they were all confirmed at eBay through the path Google provided.

C. Technical Research Results

The technical research conducted on the company domains provided great leads that when tactically followed, could lead a successful attack. Information such as when domain names were registered, server names and locations, whether there's MX, contacts persons and numbers as well as the paths leading to the destination of these domains were all successfully footprinted except cloudparadox.com that somehow had instituted security measure to block connectivity when pinged. The issaseries.com domain according to Whois was registered in 2010, updated and expiring on 2018 and 2019 respectively. It's an IANA regional registered IP owned by namecheap.com and runs a primary server named dns01.ascendlearning.com.

D. Public Domain Results

eBay has put out a lot of information in the public domain. Information such as names of management, global locations, addresses to specific and strategic buildings, financial gains over the years, subsidiaries and even the history of the company. A hacker, learning these valuable information might be able to launch a successful phishing/social engineering attack at eBay. For instance, a malicious intent insider attacker (e.g. a terminated employee from say Europe) can successfully engineer his way into the U.S.A HQ and cause massive havoc.

E. Findings and Conclusions

Techniques employed in determining the routes and prints of the companies as stated earlier provided great leads that can lead to a successful attack. Reasons backing a successful attack are that, it can be concluded and verified that all domains are registered and run on the internet.

Ping, Whois, and Traceroute on x128bit.com provided registrar name and identification (Network Solutions, LLC) which is IANA registered, dates (creation, updated, and expiration), and contacts; 10 responses to ping command; and running a mail exchanger server (i.e. p.webcom.ctmail.com) It must be emphasized that iSkytap.com and x128bit share common characteristics in terms of IP address (208.91.197.27), same creation, updated and expiration dates, same contact numbers, same MX, and registrars but different registrar IDs. Again, Nslookup sections values including serial, refresh, retry, expire, and default are just exact.

Cloudparadox.com also share similar properties as shown in the Whois capture but certain unique Nslookup output and ping page showing different IP address (50.225.131.227) on a different subnet.

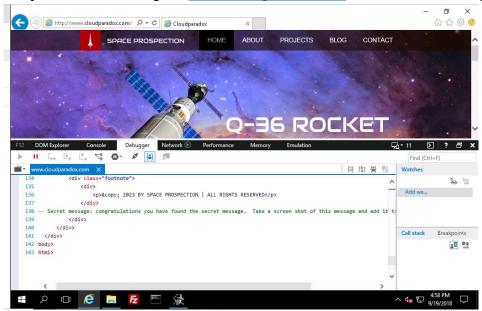
Traceroute to issaseries.com showed from the route as going through Toronto in Canada and routing through Cincinnati on Level3 network. This is then connected and associated with informedpublishing.com with IP address 198.187.138.94 (Registered to issaseries.com) in Massachusetts

F. Avenue for Further Research

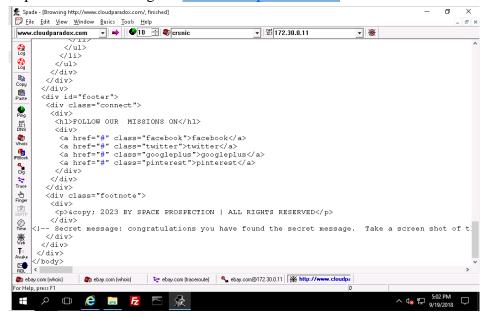
Additional information that may be needed to plan a successful attack can include mapping the IP addresses to a physical geographic location. These could be achieved by doing a public domain research to know what exact businesses do the companies undertake, how large in order to strategize the attack and also to know their security measures in place. Cloudparadox.com is a typical example of the need to know security measures since a ping command failed as well as issaseries.com. This should indicate to an attacker that there are some measures in place to protect the domains, thus its separate subnet and limited public domain information.

SECTION 2

Part 1: Step25: Secrete message in www.cloudparadox.com source code from explorer



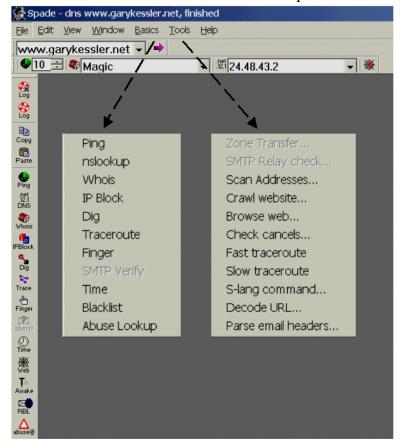
Part 1: Step28: Secrete message in www.cloudparadox.com source code from Sam Spade



SECTION 3

Part 1

Basics and Tools menus in Sam Spade



Adopted from (Kessler, 2001)

Tools for Address, Domain and Host Information (Kessler, 2001)

Ping: Sends packets to host to determine if it's reachable via the network and provides TTL.

Traceroute: Traces the route that packets take from the user's system to the specified target host address, listing all intermediate routers and showing a graph of the hop-by-hop delay times.

DIG (**Domain Internet Groper**): Looks up DNS information.

Whois: Provides ownership and contact information for the specified host's domain.

Nslookup & Decode URL: display the IP address and name of a specified host.

IP Block: Indicates the owner of the IP address block to which the specified host belongs.

Zone Transfer: Used to request that a DNS server send all of the information that it has about a given domain.

Finger: obtains host/user information from a system running the finger daemon (TCP port 79).

SMTP Verify: Used to send a Simple Mail Transfer Protocol (SMTP) VRFY command to a suspect mail server to confirm the validity of an e-mail address, such as that of the sender of a spam message.

Time: Sets the user's host system time from a network time server.

Blacklist: Checks to see if the specified host name/address is listed with the Mail Abuse Prevention System (MAPS) Realtime Blackhole List (RBL), Dial-up Users List (DUL) or Relay Spam Stopper (RSS).

SMTP Relay Check: Determines if a specified e-mail server will allow SMTP relaying.

Abuse Lookup: Finds the e-mail address to where notifications of possible spam coming from the specified domain should be sent.

Check Cancels: Searches for USENET canceled messages.

Fast & Slow traceroute: Differ only in the number of attempts made to learn the route.

Scan Addresses: A minimal port-scanning utility that allows a user to scan a specified set of IP address to detect open ports.

Browse Web: A bare-bones Web browser.

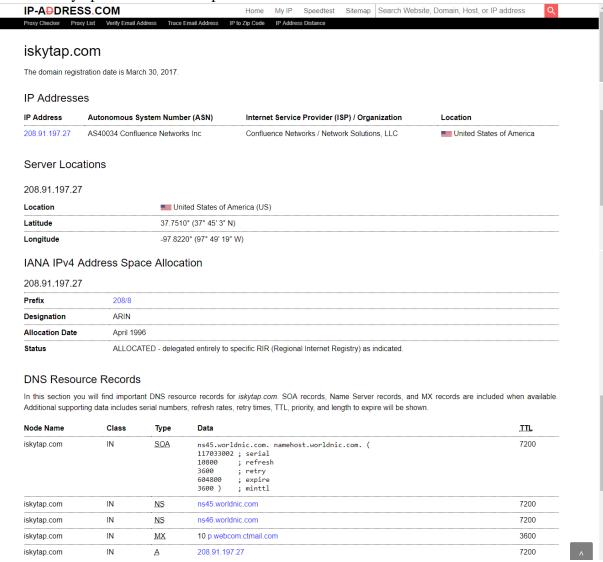
Crawl Web site: Allows you to specify a URL and download all accessible pages from a Web site.

S-Lang: An embedded S-Lang interpreter.

Parse e-mail headers: Allows the user to verify a set of headers from an e-mail message.

Part 2: Step 1

iskytap.com domain has put so much information out for attackers to utilize



x128bit.com domain is dead as shown in the upper right corner



Part 2: Step 2

Physical IP address locations (x128bit.com, iSkytap.com, and cloudparadox.com)

$Physical\ Location\ of\ x128bit.com$

IP Address	Country	Region	City
208.91.197.27	United States	Texas	Austin
ISP	Organization	Latitude	Longitude
Network Solutions LLC	Not Available	30.2672	-97.7431

Physical Location of iSkytap.com

IP Address	Country	Region	City
208.91.197.27	United States	Texas	Austin
ISP	Organization	Latitude	Longitude

Physical Location of cloudparadox.com

IP Address	Country	Region	City
50.225.131.227	United States	Texas	Houston
ISP	Organization	Latitude	Longitude

Physical Location Source: (IP Location, 2006-2008)

Part 3 Data gathering and footprinting on www.issaseries.com

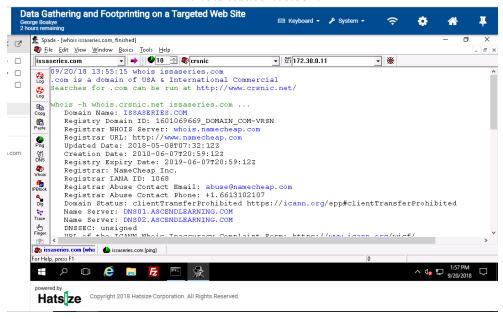
This OSNIT https://www.owler.com/company/issaseries provides some more information about issaseries.com

Social Networking Sites

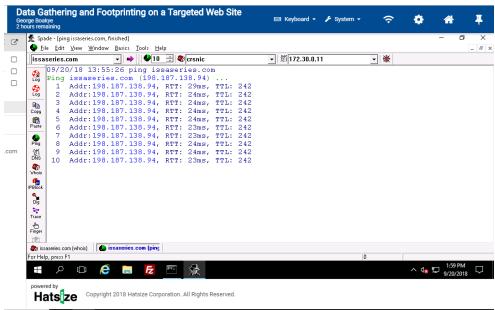
https://www.facebook.com/JBLCyber https://twitter.com/JBLearning

Information available about issaseries.com Facebook page Computer Science and Cybersecurity Jones & Bartlett Learning -Computer Science ı b Like → Share ✓ Suggest Edits ··· Send Message and Cybersecurity @JBLCyber Suggest Edits About Photos & Call (800) 832-0034 Posts info@jblearning.com http://www.issaseries.com The Jones & Bartlett Learning ISSA Series works with cutting-edge technology and software to deliver hands-on experiential learning in Cyber Security. Products A full curriculum solution for cyber security and cyber defense comprised of texts, first-of-tis-kind Virtual Security Cloud Labs, game-enhanced learning environments, with full instructor support.

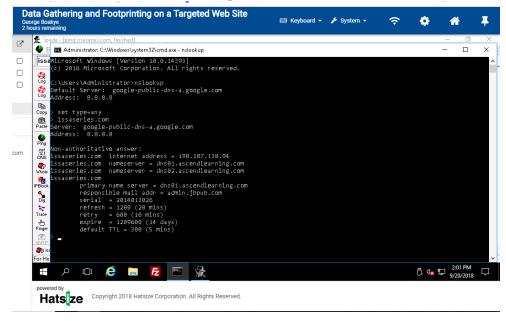
Whois issaseries.com



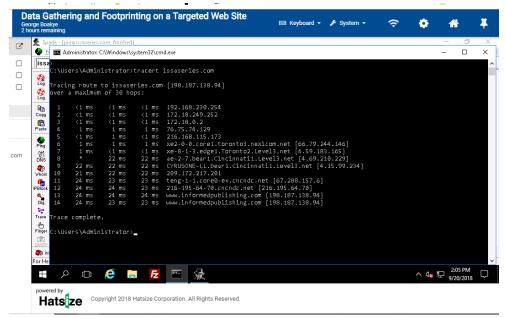
Ping issaseries.com



Nslookup issaseries.com



Tracert issaseries.com



Physical Location of issaseries.com

Domain Name	Country	Region	City
issaseries.com	United States	Massachusetts	Boston
ISP	Organization	Latitude	Longitude
Ascend Learning LLC	Not Available	42.3584	-71.0598

issaseries.com Canada location as shown in Traceroute and contact person



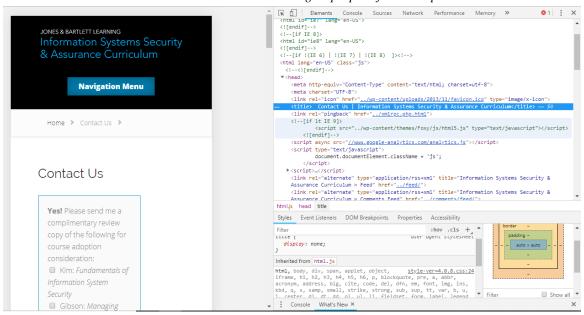
issaseries.com Canada location street view (Google map)



issaseries.com webpage



issaseries.com source code showing its purpose for development



References

eBay. (1995-12018). Retrieved from ebay: https://www.ebayinc.com/our-company/

IP Location. (2006-2008). Retrieved from https://www.iplocation.net/

Kessler, G. C. (2001, May). *Sam Spade: A Multifunction Information Toolkit*. Retrieved from https://www.garykessler.net/library/is_tools_sam_spade.html

Pines, L. (2018, July 18). Retrieved from Investopedia: https://www.investopedia.com/articles/insights/052716/top-4-ebay-shareholders-ebay.asp