**Stoppage of Play: The Sony PlayStation Network Crash (A)**

**THE CRASH**

The date was April 28, 2011 and Sony shares had just fallen by more than 5% on the Tokyo Stock Exchange.¹ The corporation was suffering through a chaotic time period in its gaming division. Hackers had invaded the PlayStation Network roughly two weeks earlier around the period between April 17, 2011 and April 19, 2011.² In the words of Max Parker, writer for the Pittsburgh Post-Gazette, “To say the hackers did damage to Sony would be the understatement of the year. They crippled the network, knocking it out of commission for a little over a week, and the hackers had access to about 77 million users’ personal information, including credit card data.”³

The organization did not figure out the source of the intrusion until a week after the initial discovery and did not disclose information about the breach until that period of time. The general public questioned Sony’s slow response and seemingly lacking internal security systems.⁴ The corporation was in the process of bringing the network back online and could not confirm how much of the accessed information would be used illegally by hackers.⁵ The blogs were buzzing about how the company would respond in the coming days to this dreadful incident.

**COMPANY BACKGROUND**

Sony Corporation began in 1946 as the Tokyo Telecommunications Engineering Corporation named “Totsuko”. Engineer Masaru Ibuka and physicist Akio Morita created the company to build and repair electrical equipment. Radios from the war were some of the organization’s first products on the market.⁶

During the early post-World War II years, Japanese people wanted to hear about news around the world as well as rebuild their war-torn nation. Sony responded by creating a market for consumer electronics which included items such as radios, tape recorders, and electric rice cookers. The founders began thinking about entering the United States in the early 1950s but discovered that Americans had a difficult time pronouncing Japanese names including the words Morita and Totsuko.⁷

Ibuka-san and Morita-san believed that the company must come up with a new name to cater to the English speaking market in North America. Sony was chosen in 1955 as a cross between the Latin word “Sonus” and the American phrase “Sonny boy.” The founders wanted to instill a sense of youth and excitement in the organization while still staying true to its identity of
sound equipment. Over the years the company has expanded to cover various aspects of the electronics and multimedia industry with recognizable divisions in Sony Pictures, Sony Music, Sony Electronics, Sony Ericsson, and Sony Computer Entertainment. Despite its international presence, Sony Corporation has kept its main headquarters in Tokyo, Japan.

GAMING

The company made its splash into computer entertainment by introducing the PlayStation console. The move initially began with a CD-ROM development venture in the 1980s with Philips. Sony gained the ability to approach home computers through the successes of this joint partnership. It approached Nintendo, a long-time developer with the idea of integrating CD technology with traditional cartridges in 1988. Disagreements and legal battles eventually disintegrated this relationship, and Sony decided to come up with its own console which would use solely CD-ROMs. The company had the ability to produce the hardware, but it bought a small European company called Psygnosis to meet software needs. In December 1994 after years of development, Sony introduced the PlayStation gaming console in Japan.

Sony Corporation has developed the PlayStation console over the years with upgrades and new product introductions using the latest technology. It created a separate division called Sony Computer Entertainment in 1995 and placed it in Sunnyvale, California. Since the console’s inception, there have been several modifications and three official generations. The latest generation is the PlayStation 3 or PS3 for short. The PS3 runs the latest disc technology called “Blu-Ray” which stores much more data than its predecessors the CD and the DVD. The console also contains a wireless card to access internet where networks are available, an internal hard drive to store additional data, digital audio and video outputs, applications for audio and video playback, and a general navigation screen. This latest installment of the PlayStation console is meant to provide more than just gaming and is expected to act as an all-in-one entertainment system.

THE PLAYSTATION NETWORK

Sony released the PlayStation Network with Qriocity services as part of the PlayStation 3 console introduction at the Business Briefing Meeting in 2006. Consumers could register and access the PSN for free via a PS3 console, a portable PSP console, or a personal computer. The following services are included on the network:

- System updates
- Multi-player gaming
- Internet browsing
- Chat functions with other users
- Downloads and streaming of music, movies, games

Some of the listed services including streaming and downloading of particular media are only offered on a premium basis and requires electronic transactions to be made. Sony originally developed retail tickets available to consumers for online funds. However, recent improvements have replaced tickets with pre-paid and online credit card transactions. As of April 30, 2011,
the network has 77 million registered users with 12 million profiles containing credit card information.14

TIMELINE

The following list outlines activities surrounding the crash during a two-week period leading up to the weekend of April 30, 2011:

- **April 19, 2011:** Illegal activity was detected in the network servers.15
- **April 20, 2011:** Engineers discovered evidence of intrusion and shut down the network to prevent potential further damage.16
- **April 21, 2011:** Sony hired external security consulting firm to further analyze problems.17
- **April 22, 2011:** Company provided the Federal Bureau of Investigation information about the breach and made a public comment on the sponsored blog suggesting PlayStation Network and Qriocity services were shut down due to an attack.18
- **April 23, 2011:** Forensic teams confirmed a sophisticated attack where intruders gained unauthorized privileges and hid their presence from administrators.19
- **April 24, 2011:** Sony did not update the public on progress but retained additional security consulting to help determine problems within the server.20
- **April 25, 2011:** Teams confirmed that account information including name, address, country, email, birthdate, PlayStation Network/Qriocity password, login, handle and network ID were stolen. However, research cannot confirm status of credit card information stored on the servers.21
- **April 26, 2011:** Kaz Hirai, head of Sony gaming, appeared at a Tokyo news conference to promote the release of new tablet personal computers. He was originally not scheduled to take questions during the event and left without discussing the network status.22 The company alerts the public via email of the intrusion and begins notifying regulatory authorities in various states and nations.23
- **April 27, 2011:** Company continued to inform the proper authorities, and Sony shares fell by 2% on the Tokyo Stock Exchange with the news of potential data loss surfacing.24 The first lawsuit against Sony due to the crash was filed by Kristopher Johns in California.25
- **April 28, 2011:** Stocks fell an additional 4.5% in Japan amidst the reactions before the long holiday weekend.26
- **April 29, 2011:** Sony refuted claims of 2.2 million credit card numbers stolen and being sold on online forums.27

REACTIONS: CONSUMERS

On April 21, 2011, one day after Sony took down the PlayStation Network, Patrick Seybold, Senior Director for Corporate Communications and Marketing released a message to Sony’s customers on the official *PlayStation.Blog*:

“While we are investigating the cause of the Network outage, we wanted to alert you that it may be a full day or two before we’re able to get the service
Consumers provided varying opinions, and gamers gave their thoughts about the inability to play games or watch movies and television shows. In comments posted to numerous websites including the PlayStation.Blog and the Huffington Post, users speculated reasons for the outage as well as expressed frustration over their inability to play the games that they were desperately waiting for. From the PlayStation.Blog on April 21st and 22nd, messages were posted notifying users that they believed that the outage was a result of an “external intrusion” and that they were “working around the clock to bring them both (PlayStation Network and Qriocity) back online. Our efforts to resolve this matter involve rebuilding our system to further strengthen our network infrastructure. Though this task is time-consuming, we decided it was worth the time necessary to provide the system with additional security.”

At this point, the overall mood went from frustration over the outage to support of Sony being a victim of hackers. Many in the gaming community turned their anger to Anonymous, a “global hacker collective”. This attitude existed until on April 26, 2011 when emails from Sony Executives and a message from Patrick Seybold notified PlayStation Network’s users that their personal data, including credit card information, may have been stolen. In the message, Sony recommended that users “be especially aware of email, telephone, and postal mail scams that ask for personal or sensitive information.” The company also made available the contact information for the three primary US credit bureaus.

The goodwill from the community evaporated in a matter of minutes. Even though a number of people remained supportive of Sony, a large portion of users reacted angrily to what they felt was a betrayal by Sony for not notifying them initially that their credit card information had potentially been stolen. (Please see Appendix A for additional comments.)

**REACTIONS: DEVELOPERS**

During the first few days of the outage, developers maintained a fairly positive outlook. Outages had happened before, but gamers typically came back. Q-Games Developer Dylan Cuthbert was quoted saying:

“PSN being out definitely affects our bottom line… but as long as the people who were going to be playing Shooter 2 and other PixelJunk titles will get right back in there playing them when it comes back up, we’ll be happy and hopefully income won’t be dented too much.”

As the days continued to pass and news of the stolen credit card data was released, some developers retained their belief that the situation will be resolved without significant damage.
Stewart Gilray of Just Add Water said “Our belief is that whilst this is terrible news… it won’t affect the user base too much.”

Other developers believed that the network outage caused anxiety in lost revenues as well as missed released dates. Ubisoft was scheduled to release a highly anticipated game Outland on April 27, 2011 but missed the release on the PSN while meeting its release date on Sony’s competitor network Microsoft’s Xbox Live Arcade.

Smaller developers had much more to lose and worry about. Lol Scragg founder of Cohort Studios said “We have our first self-funded, self-published PSN game Me Monster: Hear Me Roar, coming out next week, so from our point of view, the fact that the network isn’t available is a big concern.”

Others such as Ste Curran Creative Director at games studio Zoe Mode looked beyond the current discussion to speak of how the PlayStation Network hack would affect the future of digital media and online transaction. “From my perspective, the bigger issue is not about PSN, but confidence in digital distribution.”

**REACTIONS: PARTNERS**

PlayStation Network partners with a number of services outside of gaming such as Netflix, Hulu Plus, Qore, VUDU, and Music Unlimited in the US. In addition, Sony offers various services globally including Vidzone (Europe), RTE (Republic of Ireland), now TV (Hong Kong) and many more services.

On April 27, 2011 management at Hulu offered their Hulu Plus members a “1-week credit toward your Hulu Plus subscription.” The credit was valued at “$2 off of this month’s bill.”

**REACTIONS: U.S. GOVERNMENT**

U.S. Senator Rick Blumenthal (D-Connecticut) sent a letter to Sony Computer Entertainment America’s CEO Jack Tretton after the announcement of data loss on April 26, 2011 demanding answers for what Sony would do to both compensate and protect its users. In addition he chastised Sony for their failure to inform and protect users of the breach. (Please see full text in Appendix B.)

“I am concerned that PlayStation Network users’ personal and financial information may have been inappropriately accessed by a third party. Compounding this concern is the troubling lack of notification from Sony about the nature of the data breach. Although the breach occurred nearly a week ago, Sony has not notified customers of the intrusion, or provided information that is vital to allowing individuals to protect themselves from identity theft, such as informing users whether their personal or financial information may have been compromised. Nor has Sony specified how it intends to protect these consumers.”

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In response, Patrick Seybold commented on April 26, 2011:

“I wanted to take this opportunity to clarify a point and answer one of the most frequently asked questions today.

There’s a difference in timing between when we identified there was an intrusion and when we learned of consumers’ data being compromised. We learned there was an intrusion April 19th and subsequently shut the services down. We then brought in outside experts to help us learn how the intrusion occurred and to conduct an investigation to determine the nature and scope of the incident. It was necessary to conduct several days of forensic analysis, and it took our experts until yesterday to understand the scope of the breach. We then shared that information with our consumers and announced it publicly this afternoon.”

Mr. Seybold accurately pointed out that the length of the delay was much shorter than the week that Senator Blumenthal spoke of yet the reaction from the public was that any delay in notification was unacceptable. (Please see examples of responses in Appendix C.)

States have begun chiming in as well. Lawmakers as well as “attorney generals of several U.S. states are starting to rumble, starting with Connecticut’s George Jepson, who said he is launching an investigation, while his counterparts in Missouri and Iowa are making the kind of public statements that are often precursor to investigations of their own.”

**REACTIONS: WORLDWIDE GOVERNMENTS**

Government officials from across the world reacted as well to the PlayStation Breach.

**United Kingdom**

Christopher Graham, Information Minister for the United Kingdom made a statement saying that “We are contacting Sony and will be making further enquiries to establish the precise nature of the incident before deciding what action, if any, needs to be taken by this office.” His office is able to fine companies up to £500,000 for serious data breaches.

**Canada**

A spokesperson for Canada’s Privacy Commissioner released a statement on April 28, 2011 stating that they were “currently looking into this matter and are seeking information from Sony.” In Canada’s case, the investigation is likely to result in fairly limited legal repercussions as their most relevant law, the “Personal Information Protection and Electronic Documents Act does not state that notification is required in events of this nature.”
LAWSUITS

Kristopher Johns of Alabama filed what is considered to be the first class action lawsuit regarding the PlayStation Network hacking. The plaintiff made complaints that Sony had failed to take “reasonable care to protect, encrypt, and secure the private and sensitive data of its users.” In addition, the delay in notification Sony failed to allow members “to make an informed decision as to whether to change credit card numbers, close exposed accounts, check their credit reports or take risk mitigating actions.”

On the same day, Rebecca Mitchell filed a similar suit against Sony. A firm representing Ms. Mitchell said that the suit was filed because “Sony’s responsibility is not only to provide services to its customers, but also to protect their personal and financial information. This breach of personal and financial data has exposed millions of Sony’s customers to financial harm and jeopardized the security of their personal information. Sony broke its contract and violated its customers trust.”

LEGAL CONSIDERATIONS

Laws are fairly convoluted on the issue of data security. In the United States, the Federal Government has many rules and requirements for Federal Agencies on how they maintain private information and notify parties of a breach. However, no federal laws pertain in the private sector outside of the healthcare industry and patient records. This situation can be seen on the international stage where most other countries have only recently begun reviewing the necessity of codifying laws to address both data security as well as breach notification.

Data Security

The credit card industry has stepped in with rules and standards of its own where federal law fails to cover how the private sector protects data. The PCI Security Standards Council was created to develop security standards for the Payment Card Industry as the result of efforts by five of the world’s largest credit card companies (“American Express, Discover Financial Services, JCB International, masterCard Worldwide, and Visa, Inc.”

The PCI Security Standards Council established the Payment Card Industry Data Security Standards which listed out the minimum requirements that businesses handling credit card information would have to follow. Requirements include “Install and maintain a firewall…,” Protect stored cardholder data,” and “Restrict physical access to cardholder data.” Members of the PCI Security Standards Council are able to either fine or assess greater fees on those using their services for breaches of PCI Data Security Standards.

Breach Notification

State laws have been established to set requirements on how and when notification must be given to customers who have potentially fallen victim to a data security breach. California has one of the more detailed and strict set of requirements.
In California – “Requires notice to consumers of breach in the security, confidentiality, or integrity of unencrypted, computerized personal information held by a business or a government agency. Disclosure shall be made if the information was, or is reasonably believed to have been accessed by an unauthorized person. The disclosure shall be made in the most expedient time possible and without unreasonable delay, consistent with the legitimate needs of law enforcement or any measures necessary to determine the scope of the breach and restore the procedures consistent with timing requirements and provides notice in accordance with its policies or if the person or business abides by state or federal law, or provides greater protection and disclosure, then it is deemed in compliance.”

SIMILAR SITUATIONS

Xbox Live 13-Day Outage

In a similar network outage situation, on December 22, 2007 at the start of the Christmas holidays, Microsoft Xbox LIVE users woke to find themselves unable to sign on to the Xbox LIVE network. Due to an unexpected number of new members to the service, Microsoft’s Xbox LIVE servers crashed. Through 13 days of intermittent service, Microsoft suffered through thousands of blogs, emails, messages, and news articles haranguing them for the outage. In way of apology, Microsoft offered its members a free downloadable arcade game that was valued at $10. Given that they had recently announced during their five-year anniversary that they had “more than eight million members now actively engaged,” this could have meant a potential loss of over $80 million in revenue.

Three Texans filed a class action suit against Microsoft on January 4th, 2008 alleging that because of the outage Microsoft had “failed to provide adequate access and service to Xbox Live and its subscribers.” Since Xbox LIVE was a paid service, they felt that Microsoft had failed to live up to its commitment.

How did everything impact Xbox LIVE membership? In an article by Variety magazine in 2009, they cited that Xbox LIVE had “17 million (users)” as of February 25, 2009. They had more than doubled their total users in a little over a year.

Epsilon Data Management Hack

Epsilon Data Management, “the world’s largest permission-based e-mail marketer” suffered a breach of their network only a few weeks before the PlayStation Network hack. On March 30, 2011, engineers at Epsilon discovered that they had suffered the breach. Within 48 hours, Epsilon notified their clients and released a press release notifying the media and the public. The company was still the target of a number of investigations by the government at the time of the PSN hack.
APPENDIX A

+ jonabbey on April 26th, 2011 at 1:01 pm said:
It’s rather incredible that this is the first meaningful communication you have given us. Many of
us who are savvy enough to be reading your blog are technical enough to be running our own
Internet services, and you really can’t go wrong by over-communicating, here.
I hope you will be telling us more about how this happened.

+ sid4peeps on April 26th, 2011 at 12:58 pm said:
YAWN…
This update is about 6 days LATE. I think it is time to move to the other network, no regard for
customers here.
Toodles Sony.

+ Korbei83 on April 26th, 2011 at 1:01 pm said:
If you have compromised my credit information, you will never receive it again.
The fact that you’ve waited this long to divulge this information to your customers is deplorable.
Shame on you.
Excuse me while I go change my password.. oh wait. I can’t.

+ VisionaryLight on April 26th, 2011 at 1:03 pm said:
You really should have told us this last week. This is completely unacceptable.

+ xxnike629xx on April 26th, 2011 at 1:07 pm said:
Talk about a massive wall of text..
Dear PlayStation,
Thank you for finally posting something....but again a lot of nothing, but this time in the form of
a massive wall of text.
Thank you for compromising our personal information & credit cards.
: sarcasm ::

+ adolson on April 26th, 2011 at 1:09 pm said:
I should have known better than to trust Sony with my credit card info.
APPENDIX B

April 26, 2011

Mr. Jack Tretton
President and CEO
Sony Computer Entertainment America
919 East Hillsdale Boulevard
Foster City, CA USA 94404

Dear Mr. Tretton:

I am writing regarding a recent data breach of Sony’s PlayStation Network service. I am troubled by the failure of Sony to immediately notify affected customers of the breach and to extend adequate financial data security protections.

It has been reported that on April 20, 2011, Sony’s PlayStation Network suffered an “external intrusion” and was subsequently disabled. News reports estimate that 50 million to 75 million consumers – many of them children – access the PlayStation Network for video and entertainment. I understand that the PlayStation Network allows users to store credit card information online to facilitate the purchasing of content such as games and movies through the PlayStation Network. A breach of such a widely used service immediately raises concerns of data privacy, identity theft, and other misuse of sensitive personal and financial data, such as names, email addresses, and credit and debit card information.

When a data breach occurs, it is essential that customers be immediately notified about whether and to what extent their personal and financial information has been compromised. Additionally, PlayStation Network users should be provided with financial data security services, including free access to credit reporting services, for two years, the costs of which should be borne by Sony. Affected individuals should also be provided with sufficient insurance to protect them from the possible financial consequences of identity theft.

I am concerned that PlayStation Network users’ personal and financial information may have been inappropriately accessed by a third party. Compounding this concern is the troubling lack of notification from Sony about the nature of the data breach. Although the breach occurred nearly a week ago, Sony has not notified customers of the intrusion, or provided information that is vital to allowing individuals to protect themselves from identity theft, such as informing users whether their personal or financial information may have been compromised. Nor has Sony specified how it intends to protect these consumers.

PlayStation Network users deserve more complete information on the data breach, as well as the assurance that their personal and financial information will be securely maintained. I appreciate your prompt response on this important issue.

Sincerely,
Richard Blumenthal  
United States Senate

APPENDIX C

+ hoi1ma on April 26th, 2011 at 7:15 pm said:  
an intrusion would warrant a possible data compromise. could have warn us of this possibility whether it occur or not.

+ yazter on April 26th, 2011 at 7:16 pm said:  
It’s not the PSN downtime, it’s your lack of update that left us in the dark.  
I already bought an Xbox 360 (GT: Saturated Leaf) after spending a lot on a service that ignores us.  
Hope you resolve this. I’m sure it’s a PR night mare now.

+ Ratchet426 on April 26th, 2011 at 7:18 pm said:  
Five days to come to the conclusion that CC data might have been compromised seems about 4 days too long. If there was enough of a perceived breach to shut the entire PSN service down on the 19th I can’t imagine that CC data breach wasn’t also considered on the 19th.  
Don’t the recently enacted Red Flags regulations require companies to inform users of a POTENTIAL exposure of personal information/CC data within 24 hours?  
By the way i am encouraged that the ‘veil of silence’ has at least partially been lifted and we are hearing some actual useful information coming from Sony

+ Smert_ on April 26th, 2011 at 7:20 pm said:  
Thanks guys, I know you’re working hard. I appreciate the daily updates and clarifications.

+ Bark-n-llice on April 26th, 2011 at 7:22 pm said:  
You found out yesterday. And you didn’t go hey we better warn our customers ASAP. Moreover, if you had the slightest insight that our personal information was compromised we should of been told IMMEDIATELY. WHY DON’T YOU UNDERSTAND THAT!!!

+ AJBS0NIC on April 26th, 2011 at 7:44 pm said:  
Doesn’t any kind of breach warrant the possibility of personal info being compromised? Even if this wasn’t confirmed you obviously must have had a hunch that this kind of thing could happen, otherwise you wouldn’t have looked into it. An essential aspect of crisis PR is making sure all bases are covered. I’m not saying go into a panic any time there is a breach, but at the very *least* let your ‘valued customers’ know that personal info being compromised is a possibility *from the start* so we could at least have a shot at taking care of ourselves. Not a week later when the damage has already been done. Seriously people, anything we do now is pretty much futile. Sorry guy, but I don’t buy it.
QUESTIONS

- What are the critical issues in this case? Who are the stakeholders?
- What can Sony learn from other similar scenarios?
- How will Sony compensate PSN consumers for this malfunction?
- How can Sony not lose consumer confidence in products?
- How should Sony handle the regulatory environment surrounding data theft protection?
- What communications should Sony make and to whom?

References

1 Layne, Nathan. *Update 2 – Sony shares fall 5 pct as Playstation woes threaten outlook*, Reuters, 28 April 2011. 
<http://in.reuters.com/article/2011/04/28/idINIndia-56623820110428>


5 Ibid.

6 *About Sony: Sony Corporate History*, 18 September 2011. 
<http://www.sony-europe.com/article/id/1178278971500>

7 *Sony Corp. Info – Sony History*, 18 September 2011. 
<http://www.sony.net/SonyInfo/CorporateInfo/History/SonyHistory>

8 *About Sony: Sony Corporate History*, 18 September 2011. 
<http://www.sony-europe.com/article/id/1178278971500>
9 Sony Corp. Info – Sony History, 18 September 2011. 
<http://www.sony.net/SonyInfo/CorporateInfo/History/SonyHistory>

<http://psx.ign.com/articles/060/060188p1.html>

<http://www.pcmag.com/article2/0,2817,2055092,00.asp>

12 PlayStation 3 Features, PlayStation Network, 18 September 2011. 

13 PS3 PlayStation Network. In Facebook, 27 September 2011. 


<http://kotaku.com/5798510/the-playstation-network-hack-timeline>

16 Ibid.

17 Ibid.

18 Ibid.

19 Ibid.

<http://www.pcworld.com/article/226802/playstation_network_hack_timeline.html>

http://kotaku.com/5798510/the-playstation-network-hack-timeline


27 Ibid.


29 Ibid.


35 Ibid.


37 Ibid.

38 Ibid.


40 Ibid.


42 Ibid.


48 Ibid.


50 Ibid.


54 Ibid.


