

Fact Sheet

Who is involved?

MIT Undergrads. The “MIT Undergrads” are Zack Anderson, RJ Ryan, and Alessandro Chiesa

Professor Ron Rivest. Professor Rivest was the MIT Undergrads’ professor in the course at issue. Rivest specializes in cryptography; computer and network security; and algorithms. Professor Rivest is an inventor of the RSA public-key cryptosystem, and a founder of RSA Data Security. He is “well known and respected.” (“**Rivest**”). Rivest gave the MIT Undergrads an “A” on the paper in which they purport to first disclose their “hack” of the AFC system.

DEFCON Conference. According to information published by DEFCON, the DEFCON Conference, which took place this year at the Riviera Hotel & Casino in Las Vegas, Nevada, is “one of the oldest continuous hacker conventions around, and also one of the largest.” The Conference was anticipated to draw 5,000 to 7,000 attendees. According to organizers, “technology and hacking is the core” of the Conference. (“**DEFCON**”).

EFF. The Electronic Frontier Foundation is representing the MIT Undergrads. The EFF (the “**EFF**”). The EFF describes itself as follows: “[w]hen our freedoms in the networked world come under attack, the Electronic Frontier Foundation (EFF) is the first line of defense. EFF broke new ground when it was founded in 1990 — well before the Internet was on most people’s radar — and continues to confront cutting-edge issues defending free speech, privacy, innovation, and consumer rights today. From the beginning, EFF has championed the public interest in every critical battle affecting digital rights. Blending the expertise of lawyers, policy analysts, activists, and technologists, EFF achieves significant victories on behalf of consumers and the general public. EFF fights for freedom primarily in the courts, bringing and defending lawsuits even when that means taking on the US government or large corporations. By mobilizing more than 50,000 concerned citizens through our Action Center, EFF beats back bad legislation. In addition to advising policymakers, EFF educates the press and public. EFF is a donor-funded nonprofit and depends on your support to continue successfully defending your digital rights. Litigation is particularly expensive; because two-thirds of our budget comes from individual donors, every contribution is critical to helping EFF fight —and win—more cases.” See <http://www.eff.org/about>.

What data potentially relevant to AFC is involved?

There are three categories of data involved: (i) public domain materials (“**Universal Public Domain Materials**”); (ii) materials relevant to the AFC System that became public domain in connection with the DEFCON conference (“**Recent AFC-Related Public Domain Materials**”); and (iii) non-public materials that relate to the AFC system and potential security vulnerabilities (“**Non-Public Vulnerability Materials**”).

The category “Recent AFC-Related Public Domain Materials” consists of two elements: (i) a four page Report that the MIT Undergrads provided to the MBTA on Friday evening, August 8, just before the initial TRO hearing was to take place (the “**Report**”) and (ii) an 87 page powerpoint slide presentation that the MIT Undergrads’ EFF counsel refused to provide to the

MBTA until 4:38 am on Saturday morning, August 9, hours before the 11:00 AM Court hearing (the “**Presentation**”).

The sensitivity of the three overall categories of materials is as follows:

Category	Illustrative Materials	Sensitivity
Universal Public Domain Materials	Kostin Nohls, a UVA PhD candidate : information regarding weaknesses in MIFARE card Industry known-magnetic stripe vulnerabilities.	None.
Recent AFC-Related Public Domain Materials	DEFCON Presentation and 4 page Report	None/Low
Non-Public Vulnerability Materials	???	High , if the MIT Undergrads have such Materials.

Data on the Report and Presentation can be summarized as follows:

Document	First Discloser	Recipients	Date of first receipt
Presentation	MIT Undergrads	DEFCON Administrators	Approx. 7/5/2008
		DEFCON Attendees	Thursday, 8/7/2008
		MBTA	Saturday, 8/9/2008 at 4:38 AM
Report	MBTA	MBTA	Friday, 8/8/2008 at approx. 5:00 PM
		Court hearing attendees	Saturday 8/9/2008 at 11:00 AM
		Public (through docket)	Saturday 8/9/2008 at 2:00 PM

MBTA Discovers the Threat

On July 30, NXP, one of the MBTA’s vendors (responsible for components of the Automated Fare Collection System) notified the MBTA of its discovery of an Internet posting that advertised a Presentation at the upcoming DEFCON "hacking" conference.

This presentation said, in relevant part:

Want free subway rides for life? In this talk we go over weaknesses in common subway fare collection systems. We focus on the Boston T subway, and show how we reverse engineered the data on magstripe card, we present several attacks to completely break the CharlieCard, a MIFARE Classic smartcard used in many subways around the world, and we discuss physical security problems. ... We will release several open source tools we wrote to perform these attacks. With live demos, we will demonstrate how we broke these systems.

The MBTA took this situation seriously, and proceeded to notify the MBTA Transit Police of this situation.

Meetings and Discussions with MIT

Professor Rivest called Joe Kelley on 7/31/2008 about having the MIT Undergrads meet with the MBTA. The MBTA informed him of the MIT Undergrads' giving a presentation regarding free subway rides at the DEFCON Conference, which he was unaware of. We also informed him that we had told the MBTA Police that this hacking conference was going on, and the Undergrads were talking about giving free rides. The MBTA Police then contacted Professor Rivest about a meeting with the Undergrads.

Sergeant Detective Richard Sullivan, of the Transit Police, worked with Professor Rivest to schedule this meeting. The meeting was originally scheduled for Monday, August 4, but Professor Rivest requested that the meeting move to Tuesday August 5 due to his travel schedule. However, Professor Rivest's secretary called and emailed Sgt. Sullivan to request that the meeting take place at MIT on August 4th

The following individuals attended this meeting: (i) Zack Anderson, (ii) RJ Russell; (iii) Professor Rivest; (iv) Jay Wilcoxson, MIT Associate General Counsel; (v) Transit Police Detective Sgt. Sullivan; and (vi) local FBI agent Jacob Shaver. The MIT Undergrads did promise Sgt. Sullivan that they would provide a report to him, but stated that it would not be available for a couple of weeks. On Tuesday, August 5, Sgt. Sullivan had several telephone/email communications with Prof. Rivest.

Non-Disclosure to the MBTA; Disclosure to DEFCON

It is our understanding that the MIT Undergrads did not disclose at the August 4 meeting (i) that they had already prepared the Presentation; or (ii) that they had already sent the Presentation to DEFCON for inclusion in a CD to be distributed to all attendees. Additionally, neither MIT Counsel Jay Wilcoxson nor Professor Rivest disclosed at the August 4 meeting or during the subsequent on phone conversations on August 5 that MIT knew of the Presentation.

After the August 4th meeting, Joe Kelley contacted Professor Rivest about (i) getting a copy of the Presentation, and (ii) having the Undergrads come in to talk about the information. Professor Rivest said he would work on this. The MIT Undergrads were unavailable because they were traveling to the DEFCON Conference, but promised to call the MBTA on Thursday and to provide the MBTA with a copy of the Presentation. When no call or information was forthcoming, the MBTA instructed its legal counsel to begin drafting Court papers, so that the MBTA could obtain this information. Joe Kelley via phone on Friday morning again asked Professor Rivest to obtain the presentation materials.

The MBTA filed the Court papers by the filing deadline of 4:00 on Friday. The MIT Undergrads sent then us the Report at approximately 4:30, after we had informed MIT that we were seeking a TRO. The materials we received consisted of the Report, which did not appear to constitute the presentation materials. At the hearing, Judge Woodlock requested a copy of this Report, which we were unable to provide due to our late receipt of this information, while we physically were in the Courthouse. The Judge ordered a hearing for Saturday morning at 11:00, and ordered us to file a supplemental declaration concerning the Report. The Supplemental Declaration we filed was from Scott Henderson of AFC concerning the Report. Outside legal counsel also filed a Declaration, informing the Court of the EFF's delaying tactics, and earlier disclosure of the Presentation.

The Presentation was not provided until after the court papers were filed. Even then, the MIT Undergrads (on the advice of their new EFF counsel) withheld it from the MBTA until 4:38 AM on Saturday morning. In order to review this Presentation before the hearing, outside counsel and MBTA counsel met with Scott Henderson from AFC, and personnel from S&B at Logan Airport at 6:00 am on Saturday, before these individuals' planned 8:00 flight to Las Vegas to attend the DEFCON Conference. This was to prepare for the 11:00 hearing that morning.

The delay in providing the Presentation and Report directly conflicts with the EFF's claims that the MIT Undergrads "always wanted to help."

The Core Principle of Responsible Disclosure

The MBTA seeks to preserve the integrity and security of its Fare Media System. The MBTA does not wish to detract from the MIT Undergrads First Amendment Rights or academic freedom. The principle that the MBTA seeks to enforce here is the principle of "**responsible disclosure**." Responsible disclosure is an industry accepted practice, which functions as follows: when an expert or other evaluator discovers a vulnerability (or a perceived vulnerability) in another vendor's system, he or she does NOT promptly go public with this information. Instead, he or she first (a) informs the vendor, and (b) gives the vendor a good opportunity to repair the vulnerability. Only then, after repair (and after confirmation that the vulnerability does indeed exist), does the expert go public, and receive appropriate credit for discovering the flaw.

The MBTA believes that responsible disclosure should apply here. The EFF Counsel disagrees, and claims that any restriction on the MIT Undergrads constitutes a violation of their First Amendment Rights.

Mediation Proposal

To implement a "responsible disclosure" solution, the MBTA has offered to mediate the parties' disputes -- without pre-conditions. As of 3:30 on Monday, August 11, 2008, despite two requests, the MIT Undergrads' EFF Counsel declined to agree to mediate.

Mediation is non-binding. A third party neutral, usually a respected former judge, or a experienced, mediation-specialized attorney, will preside over the sessions, which are completely confidential BY STATUTE. If a party does not like how mediation is progressing, he or she is free to "leave the table." The only drive that keeps parties at the table is a strong understanding of what they may face if they fail to reach a negotiated solution.

There is thus **no downside** to mediation for a party, provided that party is acting in good faith, and seriously seeks a solution, rather than a media blitz, or more “prank” material.

Motion to Modify TRO

On Monday, August 11, 2008 the MBTA filed a Motion to Modify the TRO to add the term “non-public” to the Order. The Court had issued Findings and Rulings orally from the bench during the emergency hearing on Saturday, and in the context of these Findings and Rulings the MBTA believed the TRO was clear. The EFF’s press statements over the weekend, however, coupled with the EFF’s failure to respond to the proposed mediation, in the MBTA’s view jeopardized this clarity. The MBTA, accordingly, moved to restrict the TRO, as a further effort to demonstrate to the MIT Undergrads and their EFF counsel that the MBTA’s goal in this case is simply **responsible disclosure**, and no more.

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