



Suite 150 230 Scientific Drive Technology Park Norcross, Georgia 30092

April 18, 2007

Mr. Michael Calimano
Vice President – Operations and Reliability
NYISO
290 Washington Avenue Ext.
Albany, NY 12203

Dear Mr. Calimano:

On Wednesday, April 11, NYISO issued a day ahead advisory for SCR resources using the NYISO Notification Manager. During the day, feedback from resource contacts demonstrated that a substantial portion of the email and telephone notices either were not delivered, or were not delivered within the time frames required. NYISO notified RETX where an internal audit revealed the following issues had prevented the notification process from executing properly:

1. The ISP email service had changed access authorization over the winter from simple "SMTP" access to SMTP requiring authorization. Notification Manager was configured to use simple SMTP.
2. The Internet was subjected to a record setting Trojan virus attack impacting the speed of mail servers throughout the world. In the case of the RETX ISP service, mail service slowed substantially during the early minutes of the advisory period, eventually halting completely, as the ISP personnel took down the servers to install a patch to reject the Trojan. After completion, the servers returned to service, but had to deal with a substantial and time consuming backlog of emails.
3. Overnight Wednesday, once the e-mail backlog was released, some resource contacts received early morning phone calls from the system when they should not have.

On Wednesday, April 11 at approximately 1:58 PM, NYISO issued a notice through the system that there had been problems with the earlier notification and that the Resource Audit for Thursday had been cancelled. This message had no system problems, but may not have gone to all intended recipients. RETX staff worked through issues 1-3 and reported them resolved to NYISO. NYISO issued a second day ahead audit notice on Thursday, April 12, which resulted in the following issues;

4. Several resources did not receive the notice. Unlike the Wednesday results, these were specific to three RIPs/CSPs.
5. Internal testing by RETX resulted in the system sending an erroneous two hour notice which conflicted with the earlier, and correct, notice issued by NYISO.
6. On Monday, April 16, the final issue related to that was resolved. In testing, human error resulted in system issuance of another notice, for Zone F only, and restricted to contacts listed in the system as "system contacts".

toll-free
888.228.RETX

telephone
770.390.8500

facsimile
770.390.8501

web
www.retx.com

Findings by Issue and actions taken or pending:

1. Email protocol has been changed to the updated SMTP protocol and was working properly for the Thursday notices. RETX office procedures have been changed so that the network administrator who receives ISP change notices is also responsible for generating change tickets for Notification Manager, and this now is part of the response protocol. In addition, the system executes the notice algorithm each morning at 7 AM, and notifies RETX staff of its execution. If they do not receive the notice, RETX staff immediately begins problem resolution.
2. There is no total solution to the potential for issues caused by Internet attacks. The server location hosting Notification Manager has never suffered such a direct attack, but Internet activity on average is relayed by 9 servers between points of origin and destination. Email servers, of necessity, are more exposed than truly secure servers. Setting up redundant notification paths would substantially reduce exposure to these threats, but would increase service costs and potentially cause confusion. This remains an open issue.
3. The phone notification system is, and was, functioning properly. However, it is triggered by emails which are sent by the Notification Manager. As these emails were delayed, they resulted in phone calls that were delayed by corresponding times.
4. Resources that did not receive the second audit alert were the result of two distinct causes. In the case of two of the RIPs/CSPs who did not receive notices, there was a mismatch between the RIP organization names in the resource and contact files. The failure of the third RIP/CSP to receive emails was caused by a floating point check on zero, which RETX has revised to check against a very small tolerance.
5. Issues 5 and 6 are related and resulted completely from human error. . Due to the need to react quickly, RETX staff executed analysis and testing protocols by disabling the external notification system for testing. In doing so, the IT staff missed one of the notification branches in the program, resulting in the false alerts. Recognizing this, the staff physically removed the live email addresses when it tested to isolate the floating point solution. However, Notification Manager stores system contacts separately from the others. In its haste to resolve active issues, staff did not disable the system contacts table..

Conclusions:

The majority of issues resulted from causes external to Notification Manager: the email protocols should have been changed, but were not. The virus attack impacted email services, and certain email failures resulted from mismatched data entries. The software itself performed predictably, and reliably, based on the input available to it. The system generated reports and audit trail provided the information necessary to correct those issues that could be corrected, and insights into those that still are pending.

RETX management and staff regret and are deeply sorry for the results of last few days, and we recognize this has resulted in inconvenience, cost, and embarrassment to NYISO, a long time and valued client. These errors were compounded by a frantic desire to charge in and fix the problems without taking a breath and working directly with NYISO staff to outline the actions to be taken and to alert the larger user community that some testing may result in messaging. Further, that messaging, which was automatically generated should have borne clear testing labels, just in case any were sent unintentionally.

The NYISO notification system is a critical part of its resource management tools. RETX understands that these events require a response adequate to insuring they do not happen again. The underlying causes of these events have been identified. Those issues under the control of RETX are resolved. The use of both telephone and email notices addresses some risks inherently part of the public Internet, but complete resolution may be possible only at a cost that may not be justified.

Sincerely,

Phil Davis

Phil Davis
Senior Vice President
Chief Operating Officer