

Reflective Journal #2

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In this week's journal I'll be reflecting on another area of my job and a task that I worked on as it pertained to that domain. I serve as the component registration authority for my division in overseeing the PKI (Public Key Infrastructure) activities within the enterprise. As such I'm responsible for reviewing and approving all requests to re-key, create, and or delete any certificates within the enterprise. I'm also responsible for serving as a technical resource in the event that there is an issue with any of those functions. I'm the liaison between my component and the division within headquarters that oversees all PKI activities for the Department of Homeland Security. I also am responsible for training, certifying, and provisioning all of our local registration authorities to support that function.

I'm serving as a backup right now to make up for a deficiency that one of our support teams has in staffing currently. Which means after reviewing all their certificate based requests, I'm then provisioning them myself using the utility that my agency uses to manage certificates. With the holidays upon us and peoples availability in the office sporadic at best until after the new year there was a great sense of urgency put on making sure that all certificate related work is completed for the agency's system of record well ahead of the expiration date for any certificate. This week I had more than forty such related requests to address with a deadline of week's end. The requests were a combination of re-key's (renewing the keys for an existing certificate that is soon to expire but is still needed), deletions and creations. When a re-key request is sent I need to first make sure the device's unique name that the certificate request is based on does exist within the enterprise. Attention to detail and adherence to policy in this process is necessary and non-negotiable. If there isn't a certificate within the enterprise with that unique name it can't be re-keyed. With that confirmed I can proceed. Anything that is out of scope or incorrect in the

request means the entire request and form is rejected and the device sponsor would need to submit a new request.

Once the request has been validated and approved I can proceed. In addition to generating a new set of keys for a certificate sometimes that need to modify the subject alternative names associated with a certificate is necessary, so too might there be the need to change the type of certificate either class or type when re-keying a certificate. In an enterprise the size of mine the architecture is likely to change quite often. The change management process that is in place is there to account for that, but the end result might be the change in category that might need to be made when re-keying an existing certificate. Initially a set of reference and authorization codes are generated and provided to the requestor. The requestor then in turn submits a CSR (Certificate Signing Request) back to myself and with now both pieces of information I can generate the certificate. Any time that a code (reference, authorization, certificate signing request, and even certificate itself) is sent back and forth it must be sent over a secure channel. As part of my own process I also keep track of when the certificate has been deployed within the enterprise to ensure that everything is working as intended.

The last part of this task is the reporting aspect. I have a spreadsheet that I use to capture all the key metrics that have been deemed necessary to capture for each action taken. Each time the certificate administration process is completed that sheet is updated. Based on the data collected I created a series of formulas used to generate a report for my management on a monthly basis that is reviewed and then presented to senior management on a monthly basis and then both senior and executive leadership on a quarterly basis as part of the regular reporting cycle.