Soapbox

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with suggestions from J Kewley

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IN DEFENCE OF MACHINES

Machines

- … tend to do what they're told
  - Except when they don't
- Not when they are faulty
- Not when they are misconfigured
- Not when they are slow
- Not when they run out of power

IN DEFENCE OF PEOPLE

We, the People…

- Sometimes do what we're told
- Often slow and overloaded
- However, we can (often) resolve problems; see later

COMPLEXITY

Complexity

- Everything should be as simple as possible, but no simpler
  - (Attributed to) A.Einstein
  - Call this the Zeroth law of complexity (for now)
- There is a minimal complexity of everything
  - A.N.Kolmogorov
  - Call this the -1 th law of complexity
- Complexity has to go *somewhere*
  - J.Jensen (First Law of Complexity)

Complexity

- Complexity comes in two flavours,
  - Tedious, repetitive stuff
  - Unusual, difficult stuff
- Machines should do the former, humans the latter
  - Jens 2nd Law of Complexity

I SING THE BODY ELECTRIC

Why is our software crap?

1. It was designed to be crap?
   - E.g unexpected "features"
   - It was designed to waste people's time
2. Poorly engineered
3. Hasn't caught up with the time
4. It's being asked to do something it doesn't want to do
5. It was designed by someone who got at least one of the four laws of complexity wrong
6. Or is it just Sturgeon's Law?

Examples of things

What would ideal software look like?

- Probably SOA, loosely coupled
  - Modular, clean APIs, etc.; extensible
  - Standards compliant when possible
- Policy driven
- Use existing external services
  - E.g. FIM on the front end
  - HSM on the back end, of course
- Use of modern config/deployment
- Redde Caesari quae sunt Caesaris
  - Software should know the 3rd Law

In defence of CAOPS

- Apart from being a home for GFDs
- Shared knowledge/experiences
  - Sometimes

IN DEFENCE OF USERS

Authentocisation

- User workflow
- RA operator workflow
- CA operator workflow (Classics)
- VO admin workflow
- AUP workflow
- Authorisation workflow
- Accounting workflow
- Auditing workflow
- Renewal workflows (AUP, credential, roles)
- Revocation workflows
- Deletion workflows (user requested, endofterm)

Causality of Approvals

- Request submitted, approve
  - E.g. personal CSR
- Pre-approve request
  - Like we do with SANs, against whitelist
- Post-approve request (John's suggestion)
  - Automatically approve, but notify approver to revoke if they're unhappy
- Post-approve with timeout
  - Automatically approve as before
  - But automatically revoke unless approved by approver

Normal Flows

	In person	Notify pre-approver	Notify post-approver	
NEW Personal	REQ			
NEW Host/robot		REQ		
REKEY Personal		REQ		
REKEY Host/robot		REQ		

Normal(?) Flows

	In person	Notify pre-approver	Notify post-approver	Preauth option
NEW Personal	OPT	REQ		NO
NEW Host/robot			REQ	YES
REKEY Personal			OPT	YES
REKEY Host/robot			OPT	YES

Abnormal Flows

- Something goes wrong in normal flow
  - Errare humanum est (e.g. PEBKACs)
  - Approver is absent/missing
  - Malicious
  - Unintended consequences…

IN DEFENCE OF ROOT/WHEEL

Sometimes Things Go Pearshaped

- The Need to Fix (Complex) Things
- The Need to Know Who Can Fix It
- The Need To Audit and Learn