



[OSSA-2021-003] Account name and UUID oracles in account locking (CVE-2021-38155)

Bug #1688137 reported by [Samuel de Medeiros Queiroz](#) on 2017-05-03

This bug affects 2 people

268

Affects	Status	Importance	Assigned to	Milestone
OpenStack Identity (keystone)	Triaged	Medium	David Wilde	
OpenStack Security Advisory	Fix Released	Medium	Jeremy Stanley	

Bug Description

This relates to PCI DSS features added in the Newton release.
The involved PCI DSS requirements are 8.1.6 and 8.1.7, as described below:

8.1.6 Limit repeated access attempts by locking out the user ID after not more than six attempts.

8.1.7 Set the lockout duration to a minimum of 30 minutes or until an administrator enables the user ID.

The options `lockout_failure_attempts` and `lockout_duration` implement those behaviors, respectively.

If those options are enabled in the keystone configuration file, for example:

```
[security_compliance]
# Setting the account lockout threshold
lockout_failure_attempts = 2
lockout_duration = 10
```

All users in the cloud get exposed and can be subject of an attack.

The attacker could lock out an user account by:

1) Try to auth on a user's behalf:

```
POST /v3/auth/tokens
```

```
{
  "auth": {
    "identity": {
      "methods": ["password"],
      "password": {
        "user": {
          "name": "saam",
          "domain": { "id": "default" },
          "password": "fake_password"
        }
      }
    }
  }
}
```

And after `lockout_failure_attempts` attempts, as the password is wrong (as the attacker do not know it), the server returns:

```
{
  "error": {
    "code": 401,
    "title": "Unauthorized",
    "message": "The account is locked for user: 94ab353983174b04955fc9842779b085."
  }
}
```

And now the attacker even know the user's ID.

OR

2) Try to change a user's password on their behalf (would need to know the user's ID):

```
POST /v3/users/<user_id>/password
{
  "user": {
    "original_password": "fake_password",
    "password": "new_password"
  }
}
```

As the original password is wrong (as the attacker do not know it), after `lockout_failure_attempts` attempts that user account get locked out by `lockout_duration`.

For both 1) and 2), before `lockout_failure_attempts` attempts, you get:

```
{
  "error": {
    "code": 401,
    "title": "Unauthorized",
    "message": "The request you have made requires authentication."
  }
}
```

After `lockout_failure_attempts` attempts, you get:

```
{
  "error": {
    "code": 401,
    "title": "Unauthorized",
    "message": "The account is locked for user: 94ab353983174b04955fc9842779b085."
  }
}
```

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These approaches can be used by an attacker to lock out users indefinitely by locking out users again and again after `logout_duration` has passed.

See [original description](#)

Tags: [in-stable-train](#) [in-stable-ussuri](#) [in-stable-victoria](#) [in-stable-wallaby](#)

CVE References

2021-38155

Samuel de Medeiros Queiroz (samueldmq) wrote on 2017-05-03:	#1
<p>This can get even worse. An attacker can simply use a user name and user's domain name to call <code>/v3/auth/tokens</code> on their behalf and get their account locked.</p> <p>For example:</p> <pre>POST /v3/auth/tokens { "auth": { "identity": { "methods": ["password"], "password": { "user": { "name": "sam", "domain": { "id": "default" }, "password": "fake_password" } } } }</pre> <p>And after <code>logout_failure_attempts</code> attempts, the server returns:</p> <pre>{ "error": { "code": 401, "title": "Unauthorized", "message": "The account is locked for user: 94ab353983174b04955fc9842779b085." } }</pre> <p>And now the attacker even know the user's ID.</p>	
Morgan Fainberg (mdrnmstm) wrote on 2017-05-03:	#2
<p>Since this report concerns a possible security risk, an incomplete security advisory task has been added while the core security reviewers for the affected project or projects confirm the bug and discuss the scope of any vulnerability along with potential solutions.</p> <p>description:updated Changed in ossa: status:New → Incomplete</p>	
Samuel de Medeiros Queiroz (samueldmq) on 2017-05-03	
<p>summary:- Attacker may use self-service password reset to lock out users</p> <ul style="list-style-type: none">- indefinitely+ Attacker may use PCI-DSS 8.1.6 and 8.1.7 to lock out users indefinitely	
Morgan Fainberg (mdrnmstm) wrote on 2017-05-03: Re: Attacker may use PCI-DSS 8.1.6 and 8.1.7 to lock out users indefinitely	#3
<p>This bug is definitely a leak of information and if the PCI DSS features are enabled, this could lead to user discovery. This bug is a possible DOS for individual users, but does not allow an attacker to perform actions that otherwise could not be done.</p> <p>Likely the most correct fix is to ensure the "logout" error is only shown if the password is in-fact valid, eliminating the vector of user discovery. As with any system that has lockouts, it is impossible to determine the difference between a malicious user and a user with a poor memory/forgotten password making many attempts. DOS for the individual user is a known/expected aspect when lockouts are enabled.</p> <p>This could be a Class A [0], if the user discovery leak is considered a security vulnerability or a Class D [0] (a bug with security implications and a hardening opportunity). Input from Keystone-Coresec will help to identify the precise class of bug.</p> <p>[0] https://security.openstack.org/vmt-process.html#incident-report-taxonomy</p>	
Lance Bragstad (lbragstad) wrote on 2017-05-03:	#4
<p>These issues are valid, but when I think about them from the perspective of other software there are a couple additional things in play. For example, when using other services if an attacker is trying to log in as me I usually get some sort for notification saying someone is attempting to login from somewhere or that my account has been locked. Most of the time this information is delivered through some sort of recovery contact or address.</p> <p>In keystone, I believe we emit notifications for things for failed authentication and locked accounts (might need to double check that though). In that case, one possible solution would be to write a consumer that listens for those notifications and implements the recovery notice/steps.</p>	
Samuel de Medeiros Queiroz (samueldmq) wrote on 2017-05-03:	#5
<p>I have updated the bug title and description to include what I stated on comment #1, which goes beyond than just using the self-service password API for the attack.</p>	

Jeremy Stanley
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Jing Zeng
Joel wineland
John
John Lenihan
Jordan Rinke
Joshua Padman
Jun Hong Li
Kausal Malladi
Kausum Kumar
Ken'ichi Ohmichi
Kenji Motohashi
Kent Liu
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Taurus Cheung
Tayaa Med Amine
Thongth
Tiago Everton Fer...
Tiago Martins
Tony Wolf
Tushar Patil
Uma
Vidhisha Nair
Vikram

description:updated	
Samuel de Medeiros Queiroz (samueldmq) wrote on 2017-05-04:	#6
@Lance, the issue with your proposed possible solution is that we don't have such a consumer service in OpenStack, so we can't expect people have it in their deployments.	
Lance Bragstad (lbragstad) wrote on 2017-05-04:	#7
@Sam, correct. Expecting deployments to have that service would be unrealistic. It would be a work around for a deployment susceptible to the issues and want to mitigate out-of-band. I'd be interested in investigating Morgan's proposal further.	
Samuel de Medeiros Queiroz (samueldmq) wrote on 2017-05-04:	#8
I like Morgan's proposal too. If the attacker do not know it's working (since there is no message saying the user has been locked out), they are unlikely to continue. Even if they do (they might know for sure that a given username exists), it will be up to the deployer to detect that a username has been under constant attack (we need to make sure we communicate well in the logs) and: 1) change the username or 2) ignore the lockout for that specific username until the attacker gets bored. This can be combined with blacklisting the IPs from attackers, however I do not know how complex it can be to add such an automatic blacklisting mechanism into deployments.	
Lance Bragstad (lbragstad) wrote on 2017-05-16:	#9
I think our first course action is to implement Morgan's suggestion, where user information is only emitted if the password is correct. Changed in keystone: status :New → Triaged importance :Undecided → Medium	
Samuel de Medeiros Queiroz (samueldmq) wrote on 2017-06-15:	#10
I am working on a patch for this bug and I have a question: is it okay to keep emitting a CADF notification with reason "The account is locked for user: <user_id>" ? I assume it is, since that is not a message for final users (unless there is a system somewhere consuming it and giving it to users, but that is a different conversation and workflow).	
Lance Bragstad (lbragstad) wrote on 2017-06-15:	#11
I would agree - I think emitting notifications in this case is fine.	
Samuel de Medeiros Queiroz (samueldmq) wrote on 2017-06-15:	#12
1688137.diff (3.4 KiB, text/plain) This patch fixes the issue with the solution proposed by Morgan, which had agreement from Lance and myself.	
Tristan Cacqueray (tristan-cacqueray) wrote on 2017-08-15:	#13
It seems like this warrants an advisory (class A according to VMT's taxonomy: https://security.openstack.org/vmt-process.html#incident-report-taxonomy). @keystone-coresec, please review proposed patch in comment #12. Is there a documented manual procedure to unlock accounts?	
Jeremy Stanley (fungi) wrote on 2017-08-16:	#14
Some interesting alternatives were floated in a NIST SP 800-63-3 update thread on the crypto ML this week: http://www.metzdowd.com/pipermail/cryptography/2017-August/032640.html (worth a read for anyone with their heads in this space currently).	
Tristan Cacqueray (tristan-cacqueray) wrote on 2017-11-03:	#15
Samuel, would you mind formatting the patch you proposed in #12 according to https://security.openstack.org/#how-to-propose-and-review-a-security-patch	
Gage Hugo (gagehugo) wrote on 2018-07-26:	#16
pci-dss-rocky.patch (5.0 KiB, text/plain) Formatted the change from comment #12. I had to make an adjustment however, as a "reason" field was added to the audit notifications since this was reported I believe, which caused the notification to send a failure with no reason (Unauthorized) rather than AccountLocked. Please take a look to make sure this is correct. The evasive-mode lockout from http://www.metzdowd.com/pipermail/cryptography/2017-August/032640.html was an interesting idea, perhaps that could be investigated in the future.	

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Vinu Pillai
Vishakha Agarwal
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Xiaojun Lin
Xin Zhong
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kalim khuang
kgvrmsi
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lei zhang
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manish
mershard frierson
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mohit.048
nawawit kes
raja
satyanarayana pat...
satyanarayana pat...
sivagnanam C
sunilcn
tangfeixiong
trujillo
vivek.js
wanghuagong
xiaoningli
xreuze
yangbo
yangzhenyu
zhangqinta
zzfancy

Patches
1688137.diff
pci-dss-rocky.patch
pci-dss.patch
Add patch

Jeremy Stanley (fungi) wrote on 2020-02-27:	#17
<p>In keeping with recent OpenStack vulnerability management policy changes, no report should remain under private embargo for more than 90 days. Because this report predates the change in policy, the deadline for public disclosure is being set to 90 days from today. If the report is not resolved within the next 90 days, it will revert to our public workflow as of 2020-05-27. Please see http://lists.openstack.org/pipermail/openstack-discuss/2020-February/012721.html for further details.</p> <p>description:updated</p>	
Colleen Murphy (krinkle) wrote on 2020-04-27:	#18
<p>This seems to still be valid but the proposed patch doesn't apply any more, can someone update the patch and can we move forward on this before this is disclosed?</p>	
Gage Hugo (gagehugo) wrote on 2020-04-27:	#19
<p><code>pci-dss.patch</code> (5.1 KiB, text/plain)</p> <p>Update patch against master.</p>	
Colleen Murphy (krinkle) wrote on 2020-04-28:	#20
<p>Patch in comment 19 lgtm</p>	
Jeremy Stanley (fungi) on 2020-05-19	
<p>description:updated</p>	
Jeremy Stanley (fungi) wrote on 2020-05-27:	#21
<p>The embargo for this report has expired and is now lifted, so it's acceptable to discuss further in public.</p> <p>description:updated information type:Private Security → Public Security</p>	
Jeremy Stanley (fungi) on 2020-10-23	
<p>summary:- Attacker may use PCI-DSS 8.1.6 and 8.1.7 to lock out users indefinitely + PCI-DSS account lock out DoS and account UUID lookup oracle</p>	
Jeremy Stanley (fungi) wrote on 2020-10-23: Re: PCI-DSS account lock out DoS and account UUID lookup oracle	#22
<p>So just to summarize, this report covers three possible vulnerabilities related to the PCI-DSS account lock out feature:</p> <ol style="list-style-type: none"> 1. If someone can guess a username they can prevent that user from authenticating by repeatedly attempting to log in with an incorrect credential. 2. Someone can identify valid usernames by trying to log in with candidate strings with invalid passwords until the lock out is reached, at which point the change in API response confirms the existence of that user. 3. The lock out response can be used as an oracle to determine the UUID matching any known or guessed username. 	
OpenStack Infra (hudson-openstack) wrote on 2020-10-27: Related fix proposed to keystone (master)	#23
<p>Related fix proposed to branch: master Review: https://review.opendev.org/759940</p>	
OpenStack Infra (hudson-openstack) wrote on 2021-05-06: Related fix merged to keystone (master)	#24
<p>Reviewed: https://review.opendev.org/c/openstack/keystone/+759940 Committed: https://opendev.org/openstack/keystone/commit/ac2631ae33445877094cdae796fbcde8833a626 7094cdae796fbcde8833a626 Submitter: "Zuul (22348)" Branch: master</p> <p>commit ac2631ae33445877094cdae796fbcde8833a626 Author: Gage Hugo <email address hidden> Date: Tue Oct 27 15:22:04 2020 -0500</p> <p>Hide AccountLocked exception from end users</p> <p>This change hides the AccountLocked exception from being returned to the end user to hide sensitive information that a potential malicious person could gain insight from.</p> <p>The notification handler catches the AccountLocked exception as before, but after sending the audit notification, it instead bubbles up Unauthorized rather than AccountLocked.</p> <p>Co-Authored-By: Samuel de Medeiros Queiroz <email address hidden></p> <p>Change-Id: Id51241989b22c52810391f3e8e1cadbf8613d873 Related-Bug: #1688137</p>	
Jeremy Stanley (fungi) wrote on 2021-05-10: Re: PCI-DSS account lock out DoS and account UUID lookup oracle	#25
<p>It looks like the change which merged to master last week addresses potential vulnerabilities #2 and #3 from comment #22. Is there any chance for that to be backported to supported stable branches?</p> <p>As for potential vulnerability #1, I don't really see a viable way to address that, it's the intent of the feature that too many failed logins</p>	

lock the account. If a deployment considers that feature problematic, they should disable it.	
OpenStack Infra (hudson-openstack) wrote on 2021-05-10: Related fix proposed to keystone (stable/wallaby)	#26
Related fix proposed to branch: stable/wallaby Review: https://review.opendev.org/c/openstack/keystone/+790440	
OpenStack Infra (hudson-openstack) wrote on 2021-05-10: Related fix proposed to keystone (stable/victoria)	#27
Related fix proposed to branch: stable/victoria Review: https://review.opendev.org/c/openstack/keystone/+790442	
OpenStack Infra (hudson-openstack) wrote on 2021-05-10: Related fix proposed to keystone (stable/ussuri)	#28
Related fix proposed to branch: stable/ussuri Review: https://review.opendev.org/c/openstack/keystone/+790443	
OpenStack Infra (hudson-openstack) wrote on 2021-05-10: Related fix proposed to keystone (stable/train)	#29
Related fix proposed to branch: stable/train Review: https://review.opendev.org/c/openstack/keystone/+790444	
Gage Hugo (gagehugo) wrote on 2021-05-10: Re: PCI-DSS account lock out DoS and account UUID lookup oracle	#30
Backports: W - https://review.opendev.org/c/openstack/keystone/+790440 V - https://review.opendev.org/c/openstack/keystone/+790442 U - https://review.opendev.org/c/openstack/keystone/+790443 T - https://review.opendev.org/c/openstack/keystone/+790444	
OpenStack Infra (hudson-openstack) wrote on 2021-06-03: Related fix merged to keystone (stable/wallaby)	#31
Reviewed: https://review.opendev.org/c/openstack/keystone/+790440 Committed: https://opendev.org/openstack/keystone/commit/f510c806de3e20cdeedd55291cd58dafa59398bec dedd55291cd58dafa59398bec Submitter: "Zuul (22348)" Branch: stable/wallaby commit f510c806de3e20cdeedd55291cd58dafa59398bec Author: Gage Hugo <email address hidden> Date: Tue Oct 27 15:22:04 2020 -0500 Hide AccountLocked exception from end users This change hides the AccountLocked exception from being returned to the end user to hide sensitive information that a potential malicious person could gain insight from. The notification handler catches the AccountLocked exception as before, but after sending the audit notification, it instead bubbles up Unauthorized rather than AccountLocked. Co-Authored-By: Samuel de Medeiros Queiroz <email address hidden> Change-Id: Id51241989b22c52810391f3e8e1cadbf8613d873 Related-Bug: #1688137 (cherry picked from commit ac2631ae33445877094cdae796fbcfce8833a626) tags:added: in-stable-wallaby	
OpenStack Infra (hudson-openstack) wrote on 2021-06-03: Related fix merged to keystone (stable/victoria)	#32
Reviewed: https://review.opendev.org/c/openstack/keystone/+790442 Committed: https://opendev.org/openstack/keystone/commit/4649fe6bfc749ab48ec1905ca4dc2fc667914021 48ec1905ca4dc2fc667914021 Submitter: "Zuul (22348)" Branch: stable/victoria commit 4649fe6bfc749ab48ec1905ca4dc2fc667914021 Author: Gage Hugo <email address hidden> Date: Tue Oct 27 15:22:04 2020 -0500 Hide AccountLocked exception from end users This change hides the AccountLocked exception from being returned to the end user to hide sensitive information that a potential malicious person could gain insight from. The notification handler catches the AccountLocked exception as before, but after sending the audit notification, it instead bubbles up Unauthorized rather than AccountLocked. Co-Authored-By: Samuel de Medeiros Queiroz <email address hidden> Change-Id: Id51241989b22c52810391f3e8e1cadbf8613d873 Related-Bug: #1688137 (cherry picked from commit ac2631ae33445877094cdae796fbcfce8833a626) tags:added: in-stable-victoria	
OpenStack Infra (hudson-openstack) wrote on 2021-06-04: Related fix merged to keystone (stable/ussuri)	#33
Reviewed: https://review.opendev.org/c/openstack/keystone/+790443 Committed: https://opendev.org/openstack/keystone/commit/8ab4eb27be4c13c9bab2b3ea700f00a190521bf8 9bab2b3ea700f00a190521bf8 Submitter: "Zuul (22348)" Branch: stable/ussuri commit 8ab4eb27be4c13c9bab2b3ea700f00a190521bf8 Author: Gage Hugo <email address hidden> Date: Tue Oct 27 15:22:04 2020 -0500 Hide AccountLocked exception from end users This change hides the AccountLocked exception from being returned to the end user to hide sensitive information that a potential malicious person could gain insight from.	

<p>The notification handler catches the AccountLocked exception as before, but after sending the audit notification, it instead bubbles up Unauthorized rather than AccountLocked.</p> <p>Co-Authored-By: Samuel de Medeiros Queiroz <email address hidden></p> <p>Change-Id: Id51241989b22c52810391f3e8elcadbf8613d873</p> <p>Related-Bug: #1688137 (cherry picked from commit ac2631ae33445877094cdae796fbcdae8833a626)</p> <p>tags:added: in-stable-ussuri</p>

OpenStack Infra (hudson-openstack) wrote on 2021-06-04: Related fix merged to keystone (stable/train)	#34
<p>Reviewed: https://review.opendev.org/c/openstack/keystone/+790444</p> <p>Committed: https://opendev.org/openstack/keystone/commit/1b573ae7d1c20e0ebf8de79bbe7538a09589c75d</p> <p>Submitter: "Zuul (22348)"</p> <p>Branch: stable/train</p> <p>commit 1b573ae7d1c20e0ebf8de79bbe7538a09589c75d</p> <p>Author: Gage Hugo <email address hidden></p> <p>Date: Tue Oct 27 15:22:04 2020 -0500</p> <p>Hide AccountLocked exception from end users</p> <p>This change hides the AccountLocked exception from being returned to the end user to hide sensitive information that a potential malicious person could gain insight from.</p> <p>The notification handler catches the AccountLocked exception as before, but after sending the audit notification, it instead bubbles up Unauthorized rather than AccountLocked.</p> <p>Co-Authored-By: Samuel de Medeiros Queiroz <email address hidden></p> <p>Change-Id: Id51241989b22c52810391f3e8elcadbf8613d873</p> <p>Related-Bug: #1688137 (cherry picked from commit ac2631ae33445877094cdae796fbcdae8833a626)</p> <p>tags:added: in-stable-train</p>	

Jeremy Stanley (fungi) wrote on 2021-07-09: Re: PCI-DSS account lock out DoS and account UUID lookup oracle	#35
<p>A fix for the account name and UUID oracles has merged with backports applied as far back as stable/train (so definitely covering all officially maintained branches at this point). We should probably issue a security advisory covering these points.</p> <p>However, the other concern raised in this report is essentially with the intent of PCI-DSS controls 8.1.6 and 8.1.7, which I think should not be treated as a bug (if you don't want someone to be able to lock our another user's account by repeatedly failing to log into it, don't enable that feature in Keystone). I think the bug report should be retitled to focus on the oracles, which were certainly unintended behaviors detrimental to account security.</p>	

OpenStack Infra (hudson-openstack) wrote on 2021-08-05: Fix proposed to ossa (master)	#36
<p>Fix proposed to branch: master</p> <p>Review: https://review.opendev.org/c/openstack/ossa/+803640</p> <p>Changed in ossa:</p> <p>status:Incomplete → In Progress</p>	

Jeremy Stanley (fungi) wrote on 2021-08-05: Re: PCI-DSS account lock out DoS and account UUID lookup oracle	#37
<p>Please review the proposed security advisory linked above and let me know if it correctly captures the fixed vulnerabilities.</p>	
<p>Changed in ossa:</p> <p>importance:Undecided → Medium</p> <p>assignee:nobody → Jeremy Stanley (fungi)</p>	

Jeremy Stanley (fungi) on 2021-08-06
<p>summary:- PCI-DSS account lock out DoS and account UUID lookup oracle + Account name and UUID oracles in account locking (CVE-2021-38155)</p>

Jeremy Stanley (fungi) wrote on 2021-08-09: Re: Account name and UUID oracles in account locking (CVE-2021-38155)	#38
<p>Last call for reviews on the proposed https://review.opendev.org/803640 advisory content, I'm planning to approve and send copies to mailing lists around this time tomorrow. Thanks!</p>	

Jeremy Stanley (fungi) on 2021-08-10
<p>summary:- Account name and UUID oracles in account locking (CVE-2021-38155) + [OSSA-2021-003] Account name and UUID oracles in account locking + (CVE-2021-38155)</p>

OpenStack Infra (hudson-openstack) wrote on 2021-08-10: Fix merged to ossa (master)	#39
<p>Reviewed: https://review.opendev.org/c/openstack/ossa/+803640</p> <p>Committed: https://opendev.org/openstack/ossa/commit/cf49e91bb4a6a663b960d65f87841f9ba589a8e4</p> <p>Submitter: "Zuul (22348)"</p> <p>Branch: master</p> <p>commit cf49e91bb4a6a663b960d65f87841f9ba589a8e4</p> <p>Author: Jeremy Stanley <email address hidden></p> <p>Date: Thu Aug 5 18:25:32 2021 +0000</p> <p>Add OSSA-2021-003 (CVE-2021-38155)</p>	

Change-Id: Ic9c5d7a45be8a083931b2600adbc76c9e292d0ab Closes-Bug: #1688137 Changed in ossa: status: In Progress → Fix Released	
Jeremy Stanley (fungi) wrote on 2021-08-10:	#40
This advisory has been delivered to the usual mailing lists.	
OpenStack Infra (hudson-openstack) wrote on 2021-08-16: Related fix proposed to keystone (stable/stein)	#41
Related fix proposed to branch: stable/stein Review: https://review.opendev.org/c/openstack/keystone/+804718	
OpenStack Infra (hudson-openstack) wrote on 2021-08-16: Related fix proposed to keystone (stable/rocky)	#42
Related fix proposed to branch: stable/rocky Review: https://review.opendev.org/c/openstack/keystone/+804719	
Jacolex (jacolex) wrote on 2022-03-11 (last edit on 2022-03-11):	#43
<p>I spent two days examining source code, why users are not receiving explanation about locking account and finally I found this thread. I'm operating various systems (AD, linuxes, LDAPs), where users have feedback from system, why the logon not works in case of failure. I can't see proper explanation why keystone developers loose balance between usability and security. Of course account locked information is some kind of leak of information about account names, but this is overkill for authentication usability. If something wrong is happening with locking accoutns, the administrator should take necessary steps to investigate and prevent the attack. The logs should be analyzed continously to prevent the attacks, but HOW TO DO IT IF THERE ARE NO LOGS!!!</p> <p>Please consider once again such useless security standards. There is no security if administrator and user has no information about logon failures! After spending a lot of time on those problems I realized that I have no tools to monitor failure logons and locking accounts. Even no account names appearing keystone in logs. This is not what administrator is expecting from secure authentication system!</p> <p>My comments to the argumentation above:</p> <p>>So just to summarize, this report covers three possible vulnerabilities related to the PCI-DSS account lock out feature:</p> <p>>1. If someone can guess a username they can prevent that user from authenticating by repeatedly attempting to log in with an >incorrect credential.</p> <p>Yes this is kind of problem, but the attacker can guess the user name in other ways and making such attack. In such cases the user should reported abuse and then the openstack operator should prevent such attacks by blocking IP address or changing account name. These issues shouldn't be handled automatically but obscurity, but every case should be investigated and prevented.</p> <p>>2. Someone can identify valid usernames by trying to log in with candidate strings with invalid passwords until the lock out is >reached, at which point the change in API response confirms the existence of that user.</p> <p>> 3. The lock out response can be used as an oracle to determine the UUID matching any known or guessed username.</p> <p>These problems occur on every authentication systems. But lockout threshold should prevent such attacks using for example throttling policies. Another way: log lockout events to keystone log only (now there are no information, even when insecure_debug is on).</p> <p>I think that administrator should have possibility to choose the security level of keystone authentication process, depending on company needs and company security policy.</p>	
David Wilde (dave-wilde) on 2022-03-11	
Changed in keystone: assignee: nobody → David Wilde (dave-wilde)	
Douglas Mendizábal (dougmendizabal) wrote on 2022-03-11:	#44
I think it makes sense to provide more logging around this. Dave will take this bug and work on a patch.	
OpenStack Infra (hudson-openstack) wrote on 2022-07-15: Change abandoned on keystone (stable/stein)	#45
Change abandoned by "Douglas Mendizábal <email address hidden>" on branch: stable/stein Review: https://review.opendev.org/c/openstack/keystone/+804718 Reason: Abandoning unmerged stable/stein changes.	
OpenStack Infra (hudson-openstack) wrote on 2022-07-15: Change abandoned on keystone (stable/rocky)	#46
Change abandoned by "Douglas Mendizábal <email address hidden>" on branch: stable/rocky Review: https://review.opendev.org/c/openstack/keystone/+804719 Reason: Abandoning unmerged stable/rocky changes.	

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