

#### **VULNERABILITY DETAILS**

The PrintViewManager will run a nested message loop[1] for printer settings initialization. If the PrintViewManager or other related instances are destroyed, the UAF will be triggered when its member variable quit\_inner\_loop\_[2] gets accessed after the nested message loops exit.

#### VERSION Chrome Version: stable

Operating System: test in Linux

## REPRODUCTION CASE

\$ python -m SimpleHTTPServer

\$ out/asan/chrome --user-data-dir=/tmp/xxxx "http://localhost:8000/poc.html"

Choose "Print using system dialog" in "More settings", wait a while and print to file.

Then because the file is too large, it will prompt that the page is unresponsive. Click "Exit page" to crash the page, and refresh the page

Finally, choose "Print using system dialog" in "More settings" again and close the page.

The UAF will be triggered after 1min[\*]. (You can modify it to 5 seconds to shorten this time)

It's just one of the triggering paths, there may be other simpler paths or it can be triggered more easily through a compromised renderer.

#### FOR CRASHES, PLEASE INCLUDE THE FOLLOWING ADDITIONAL INFORMATION

Type of crash: browser Crash State: see asan file

# CREDIT INFORMATION Reporter credit: Leecraso and Guang Gong of 360 Alpha Lab 24.3 KB View Download poc.html 201 bytes View Download demo.mp4 2.3 MB View Download

Comment 1 by sheriffbot on Tue, Jul 20, 2021, 11:15 AM EDT Project Member

Labels: external\_security\_report

0:00 / 1:07

Comment 2 by dominickn@chromium.org on Tue, Jul 20, 2021, 10:53 PM EDT Project Member

Status: Assigned (was: Unconfirmed)
Owner: thestig@chromium.org

Cc: weili@chromium.org

Labels: FoundIn-91 Security\_Severity-Medium OS-Chrome OS-Linux OS-Mac OS-Windows OS-Lacros Pri-1

Components: Internals>Printing

+thestig +weili, can you take a look at this please? I'm tentatively assigning a medium severity since this needs an explicit print command from the user.

Comment 3 by sheriffbot on Tue, Jul 20, 2021, 10:57 PM EDT Project Member

Labels: Security\_Impact-Stable

Comment 4 by leecraso@gmail.com on Wed, Jul 21, 2021, 12:50 AM EDT

Thanks for the quick reply. I think the severity should be high. A compromised renderer could greatly simplify user gesture, you can try this patch.

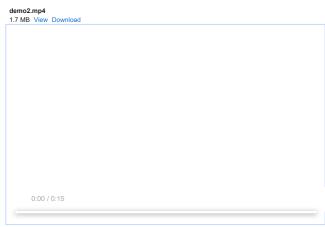
REPRODUCTION CASE:

Choose "Print using system dialog", close the page, and the UAF will be triggered.

With compromised renderer, other user gestures may not be necessary, I did not study it further.

patch.diff 24 KB View Download poc.html

31 bytes View Download



Comment 5 by dominickn@chromium.org on Wed, Jul 21, 2021, 4:30 AM EDT Project Member

Labels: -Security\_Severity-Medium Security\_Severity-High

Thanks for the clarification. A UaF in the browser process that needs a compromised renderer is indeed high severity.

Comment 6 by sheriffbot on Wed, Jul 21, 2021, 12:47 PM EDT Project Member

Labels: M-91 Target-91

Setting milestone and target because of high severity.

For more details visit https://www.chromium.org/issue-tracking/autotriage - Your friendly Sheriffbot

Comment 7 by thestig@chromium.org on Thu, Jul 22, 2021, 10:11 AM EDT Project Member

I'm having a bit of trouble reproducing this based on the original steps. I'll try out the patch in patch set 4 next.

Comment 8 by leecraso@gmail.com on Tue, Jul 27, 2021, 3:40 AM EDT

Hi thestig@, can you reproduce it now?

Comment 9 by thestig@chromium.org on Tue, Jul 27, 2021, 8:32 PM EDT Project Member

Yes, I can reproduce it using the patch in comment 4. The patch is slightly out of date and requires minor adjustments to compile.

Comment 10 by thestig@chromium.org on Wed, Jul 28, 2021, 4:25 PM EDT Project Member

Status: Fixed (was: Assigned)

I landed r906269 for this bug, but messed up the associated bug number.

Comment 11 by sheriffbot on Thu, Jul 29, 2021, 12:42 PM EDT Project Member

Labels: reward-topanel

Comment 12 by sheriffbot on Thu, Jul 29, 2021, 1:41 PM EDT Project Member

Labels: -Restrict-View-SecurityTeam Restrict-View-SecurityNotify

Comment 13 by sheriffbot on Thu, Jul 29, 2021, 2:01 PM EDT Project Member

Labels: Merge-Request-92 Merge-Request-93 Merge-Request-91

This is sufficiently serious that it should be merged to extended stable. But I can't see a Chromium repo commit here, so you will need to investigate what - if anything - needs to be merged to M91. Is there a fix in some other repo which should be merged? Or, perhaps this ticket is a duplicate of some other ticket which has the real fix: please track that down and ensure it is merged appropriately.

This is sufficiently serious that it should be merged to stable. But I can't see a Chromium repo commit here, so you will need to investigate what - if anything - needs to be merged to M92. Is there a fix in some other repo which should be merged? Or, perhaps this ticket is a duplicate of some other ticket which has the real fix: please track that down and ensure it is merged appropriately.

This is sufficiently serious that it should be merged to dev. But I can't see a Chromium repo commit here, so you will need to investigate what - if anything - needs to be merged to M93. Is there a fix in some other repo which should be merged? Or, perhaps this ticket is a duplicate of some other ticket which has the real fix: please track that down and ensure it is merged appropriately.

For more details visit https://www.chromium.org/issue-tracking/autotriage - Your friendly Sheriffbot

Comment 14 by sheriffbot on Thu, Jul 29, 2021, 2:02 PM EDT Project Member

Labels: -Merge-Request-92 Merge-Review-92 Hotlist-Merge-Review

This bug requires manual review: Request affecting a post-stable build

Before a merge request will be considered, the following information is required to be added to this bug:

- 1. Does your merge fit within the Merge Decision Guidelines?
- Chrome: https://chromium.googlesource.com/chromium/src.git/+/main/docs/process/merge\_request.md#when-to-request-a-merge
- Chrome OS: https://goto.google.com/cros-release-branch-merge-guidelines
- 2. Links to the CLs you are requesting to merge.
- 3. Has the change landed and been verified on ToT?
- 4. Does this change need to be merged into other active release branches (M-1, M+1)?
- 5. Why are these changes required in this milestone after branch?
- 6. Is this a new feature?
- 7. If it is a new feature, is it behind a flag using finch?

## Chrome OS Only:

8. Was the change reviewed and approved by the Eng Prod Representative? See Eng Prod ownership by component: http://go/cros-engprodcomponents

Please contact the milestone owner if you have questions.

Owners: govind@(Android), benmason@(iOS), dgagnon@(ChromeOS), srinivassista@(Desktop)

For more details visit https://www.chromium.org/issue-tracking/autotriage - Your friendly Sheriffbot

Comment 15 by thestig@chromium.org on Thu, Jul 29, 2021, 3:10 PM EDT Project Member

leecraso@: Have you able to try a newer Chromium build with the fix to verify it works?

We should probably start with a M93 merge. Not sure why sheriffbot started with M92 in comment 14.

Comment 16 by amyressler@chromium.org on Thu, Jul 29, 2021, 3:21 PM EDT Project Member

thestig@ we're cutting an M92 security refresh (and an M91 extended stable release) today. Seems like this makes sense to leave this for a few more days of Canary time before merging. I can check back and, as long as there are no issues, approve in a couple of day and it can go into the next refresh in a couple of weeks. Please feel free to let me know if you disagree. :) Thanks!

Comment 17 by thestig@chromium.org on Thu, Jul 29, 2021, 3:24 PM EDT Project Member

I'm fine with letting it bake for a bit longer and then merge.

Comment 18 by sheriffbot on Thu, Jul 29, 2021, 5:35 PM EDT Project Member

Labels: -Merge-Request-93 Merge-Review-93

This bug requires manual review: M93's targeted beta branch promotion date has already passed, so this requires manual review
Before a merge request will be considered, the following information is required to be added to this bug:

- 1. Does your merge fit within the Merge Decision Guidelines?
- $Chrome: \ https://chromium.googlesource.com/chromium/src.git/+/main/docs/process/merge\_request.md\#when-to-request-a-merge-request.md$
- Chrome OS: https://goto.google.com/cros-release-branch-merge-guidelines
- 2. Links to the CLs you are requesting to merge.
- Has the change landed and been verified on ToT?
- 4. Does this change need to be merged into other active release branches (M-1, M+1)?
- 5. Why are these changes required in this milestone after branch?
- 6. Is this a new feature?
- 7. If it is a new feature, is it behind a flag using finch?

## Chrome OS Only:

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Please contact the milestone owner if you have questions.

Owners: benmason@(Android), govind@(iOS), geohsu@(ChromeOS), pbommana@(Desktop)

For more details visit https://www.chromium.org/issue-tracking/autotriage - Your friendly Sheriffbot

Comment 19 by leecraso@gmail.com on Thu, Jul 29, 2021, 11:04 PM EDT

Hi thestig@, the patch looks good in my test.

Comment 20 by thestig@chromium.org on Mon, Aug 2, 2021, 3:23 PM EDT Project Member

Cc: amyressler@chromium.org

re: comment 19 - Thanks for the feedback!

amyressler@: Are you handling M93 merges as well? Between the positive feedback and no reports of the fix having unintended side effects, shall we start with the M93 merge?

Comment 21 by amyressler@chromium.org on Mon, Aug 2, 2021, 3:42 PM EDT Project Member

Labels: -Merge-Review-93 Merge-Approved-93

I am indeed and this one was next on my list! I concur, based on good bake time on Canary and patch confirmation, sounds like this is indeed good to go for M93 merge. Please merge to branch 4577 before 2pm PDT tomorrow (Tuesday, 3 August) so it can be in this week's beta release. Thanks!!

Comment 22 by thestig@chromium.org on Mon, Aug 2, 2021, 8:06 PM EDT Project Member

Labels: -Merge-Approved-93 merge-merged-93 merge-merged-4577

Cherrypicked in https://chromium-review.googlesource.com/c/chromium/src/+/3068160, but I once again had the wrong Bug: field. :-\

Comment 23 by amyressler@google.com on Wed, Aug 4, 2021, 7:08 PM EDT Project Member

Labels: -reward-topanel reward-unpaid reward-20000

\*\*\* Boilerplate reminders! \*\*\*

Please do NOT publicly disclose details until a fix has been released to all our users. Early public disclosure may cancel the provisional reward. Also, please be considerate about disclosure when the bug affects a core library that may be used by other products. Please do NOT share this information with third parties who are not directly involved in fixing the bug. Doing so may cancel the provisional reward. Please be honest if you have already disclosed anything publicly or to third parties. Lastly, we understand that some of you are not interested in money. We offer the option to donate your reward to an eligible charity. If you prefer this option, let us know and we will also match your donation - subject to our discretion. Any rewards that are unclaimed after 12 months will be donated to a charity of our choosing.

Please contact security-vrp@chromium.org with any questions.

Comment 24 by amyressler@chromium.org on Wed, Aug 4, 2021, 7:10 PM EDT Project Member

Congratulations, Leecraso and Guang Gong! The VRP Panel has decided to award you \$20,000 for this report. Nice work!

Comment 25 by amyressler@google.com on Fri, Aug 6, 2021, 12:37 PM EDT Project Member

Labels: -reward-unpaid reward-inprocess

Comment 26 by sheriffbot on Sat, Aug 7, 2021, 12:21 PM EDT Project Member

Labels: -M-91 Target-92 M-92

Comment 27 by amyressler@google.com on Tue, Aug 10, 2021, 3:00 PM EDT Project Member

Labels: -Merge-Review-92 Merge-Approved-92

Merge approved to M92, please merge to branch 4515 by 5pm PDT Thursday (12 August) so this fix can be included in next week's stable channel refresh. Thank you!

Comment 28 by thestig@chromium.org on Tue, Aug 10, 2021, 3:21 PM EDT Project Member

M92 merge in progress, with the right bug # this time: https://chromium-review.googlesource.com/c/chromium/src/+/3086110

We probably should drop the Merge-Request-91 label, given M92 is the current Stable channel.

Comment 29 by amyressler@google.com on Tue, Aug 10, 2021, 3:30 PM EDT Project Member

M91 was/is going to become the Extended Stable release channel. That may have potentially shifted only as of very late last week, which is why I kept the label on.

Comment 30 by Git Watcher on Tue, Aug 10, 2021, 5:39 PM EDT Project Member

Labels: -merge-approved-92 merge-merged-4515 merge-merged-92

The following revision refers to this bug:

https://chromium.googlesource.com/chromium/src/+/774dea8b445cb51cd2dccc560e4514369e197de6

commit 774dea8b445cb51cd2dccc560e4514369e197de6

Author: Lei Zhang <thestig@chromium.org>

Date: Tue Aug 10 21:38:36 2021

M92: Do more class validity checks in PrintViewManagerBase.

PrintViewManagerBase runs a nested loop. In some situations, PrintViewManagerBase and related classes like PrintViewManager and PrintPreviewHandler can get deleted while the nested loop is running. When this happens, the nested loop exists to a PrintViewManagerBase that is no longer valid.

Use base::WeakPtrs liberally to check for this condition and exit

safely.

(cherry picked from commit a2cb1fb333d2faacb2fe1380f8d2621b5ee6af7e)

#### Bug: 1231134

Change-Id: I21ec131574331ce973d22594c11e70088147e149

Reviewed-on: https://chromium-review.googlesource.com/c/chromium/src/+/3057880

Reviewed-by: Alan Screen <awscreen@chromium.org>
Commit-Queue: Lei Zhang <thestig@chromium.org>

Commit-Queue: Lei Zhang <a href="mailto:character">chang<a hre

Reviewed-on: https://chromium-review.googlesource.com/c/chromium/src/+/3086110

Bot-Commit: Rubber Stamper <rubber-stamper@appspot.gserviceaccount.com>

Cr-Commit-Position: refs/branch-heads/4515@{#2024}

Cr-Branched-From: 488fc70865ddaa05324ac00a54a6eb783b4bc41c-refs/heads/master@{#885287}

 $\textbf{[modify]} \ \text{https://crrev.com/} \textbf{774dea8b445cb51cd2dccc560e4514369e197de6/chrome/browser/printing/print\_view\_manager.cc} \\$ 

| modify| https://crrev.com/774dea8b445cb51cd2dccc560e4514369e197de6/chrome/browser/printing/print\_view\_manager.h | modify| https://crrev.com/774dea8b445cb51cd2dccc560e4514369e197de6/chrome/browser/printing/print\_view\_manager\_base.cc

[modify] https://crrev.com/774dea8b445cb51cd2dccc560e4514369e197de6/chrome/browser/printing/print\_view\_manager\_base.h

[modify] https://crrev.com/774dea8b445cb51cd2dccc560e4514369e197de6/chrome/browser/ui/webui/print\_preview/print\_preview\_handler.cc

Comment 31 by amyressler@google.com on Mon, Aug 16, 2021, 10:11 AM EDT Project Member

Labels: Release-2-M92

Labels: CVE-2021-30600 CVE description-missing

Comment 33 by amyressler@chromium.org on Tue, Aug 17, 2021, 12:14 PM EDT Project Member

Labels: -Merge-Request-91

removing merge-request-91 label as M91 is no longer going to be extended stable

Comment 34 by rzanoni@google.com on Thu, Aug 19, 2021, 11:34 AM EDT Project Member

Labels: LTS-Size-Small LTS-Security-90 LTS-Merge-Request-90

Comment 35 by rzanoni@google.com on Fri, Aug 20, 2021, 3:46 AM EDT Project Member

Labels: LTS-Complexity-Trivial

Comment 36 by gianluca@google.com on Fri, Aug 20, 2021, 12:40 PM EDT Project Member

Labels: -LTS-Merge-Request-90 LTS-Merge-Approved-90

Comment 37 by Git Watcher on Mon, Aug 23, 2021, 9:43 AM EDT Project Member

Labels: merge-merged-4430 merge-merged-90

The following revision refers to this bug:

nium/src/+/f4db5691eed7a664249639ed4f0b4c93c254a7a8

commit f4db5691eed7a664249639ed4f0b4c93c254a7a8

Author: Lei Zhang <thestig@chromium.org>
Date: Mon Aug 23 13:42:51 2021

[M90-LTS] Do more class validity checks in PrintViewManagerBase

PrintViewManagerBase runs a nested loop. In some situations, PrintViewManagerBase and related classes like PrintViewManager and PrintPreviewHandler can get deleted while the nested loop is running. When this happens, the nested loop exists to a PrintViewManagerBase

Use base::WeakPtrs liberally to check for this condition and exit

(cherry picked from commit a2cb1fb333d2faacb2fe1380f8d2621b5ee6af7e)

Change-Id: I21ec131574331ce973d22594c11e70088147e149

Reviewed-on: https://chromium-review.googlesource.com/c/chromium/src/+/3057880

Commit-Queue: Lei Zhang <thestig@chromium.org>

Cr-Original-Commit-Position: refs/heads/master@{#906269}

Reviewed-on: https://chromium-review.googlesource.com/c/chromium/src/+/3100154

Reviewed-by: Artem Sumaneev <asumaneev@google.com> Owners-Override: Artem Sumaneev <asumaneev@google.com>

Commit-Queue: Roger Felipe Zanoni da Silva <rzanoni@google.com>

Cr-Commit-Position: refs/branch-heads/4430@{#1574}

Cr-Branched-From: e5ce7dc4f7518237b3d9bb93cccca35d25216cbe-refs/heads/master@{#857950}

[modify] https://crrev.com/f4db5691eed7a664249639ed4f0b4c93c254a7a8/chrome/browser/printing/print\_view\_manager.cd

[modify] https://crrev.com/f4db5691eed7a664249639ed4f0b4c93c254a7a8/chrome/browser/printing/print\_view\_manager.h [modify] https://crrev.com/f4db5691eed7a664249639ed4f0b4c93c254a7a8/chrome/browser/printing/print\_view\_manager\_base.cc

[modify] https://crrev.com/f4db5691eed7a664249639ed4f0b4c93c254a7a8/chrome/browser/printing/print\_view\_manager\_base.h

[modify] https://crrev.com/f4db5691eed7a664249639ed4f0b4c93c254a7a8/chrome/browser/ui/webui/print\_preview/print\_preview\_handler.cc

Comment 38 by rzanoni@google.com on Mon, Aug 23, 2021, 9:46 AM EDT Project Member

Labels: -LTS-Merge-Approved-90 LTS-Merge-Request-90

Comment 39 by rzanoni@google.com on Mon, Aug 23, 2021, 9:47 AM EDT Project Member

Labels: -LTS-Merge-Request-90 LTS-Merged-90

Comment 40 by amyressler@google.com on Thu, Aug 26, 2021, 1:44 PM EDT Project Member

Labels: -CVE\_description-missing CVE\_description-submitted

Comment 41 by Git Watcher on Wed, Sep 22, 2021, 6:42 PM EDT Project Member

Labels: merge-merged-4515\_132

The following revision refers to this bug:

https://chromium.googlesource.com/chromium/src/+/d2758e3fc7e0b51b4b6e172aca312e499b0b7d4b

commit d2758e3fc7e0b51b4b6e172aca312e499b0b7d4b

Author: Lei Zhang <thestig@chromium.org>

Date: Wed Sep 22 22:41:35 2021

M92: Do more class validity checks in PrintViewManagerBase.

PrintViewManagerBase runs a nested loop. In some situations, PrintViewManagerBase and related classes like PrintViewManager and PrintPreviewHandler can get deleted while the nested loop is running. When this happens, the nested loop exists to a PrintViewManagerBase that is no longer valid.

Use base::WeakPtrs liberally to check for this condition and exit

(cherry picked from commit a2cb1fb333d2faacb2fe1380f8d2621b5ee6af7e)

(cherry picked from commit 774dea8b445cb51cd2dccc560e4514369e197de6)

Change-Id: I21ec131574331ce973d22594c11e70088147e149

Reviewed-on: https://chromium-review.googlesource.com/c/chromium/src/+/3057880

Reviewed-by: Alan Screen <awscreen@chromium.org>

Commit-Queue: Lei Zhang <hestig@chromium.org>
Cr-Original-Original-Commit-Position: refs/heads/master@{#906269}

Reviewed-on: https://chromium-review.googlesource.com/c/chromium/src/+/3086110

Bot-Commit: Rubber Stamper <rubber-stamper@appspot.gserviceaccount.com>

Cr-Original-Commit-Position: refs/branch-heads/4515@{#2024}

Ci-Original-Continuer-Vosition, restrict and restrict and

Auto-Submit: Joe Tessler <jrt@chromium.org>

Reviewed-by: Lei Zhang <thestig@chromium.org>
Cr-Commit-Position: refs/branch-heads/4515\_132@{#9}

Cr-Branched-From: 8e089f9dc0d240f50df19b527a90447b90ca5bb-refs/branch-heads/4515@{#1934} Cr-Branched-From: 488fc70865ddaa05324ac00a54a6eb783b4bc41c-refs/heads/master@{#885287}

 $\label{lem:lemodify} \ [modify] \ https://crrev.com/d2758e3fc7e0b51b4b6e172aca312e499b0b7d4b/chrome/browser/printing/print\_view\_manager\_base.cc$ 

[modify] https://crrev.com/d2758e3fc7e0b51b4b6e172aca312e499b0b7d4b/chrome/browser/luinweiu/print\_preview\_handler.cc
[modify] https://crrev.com/d2758e3fc7e0b51b4b6e172aca312e499b0b7d4b/chrome/browser/printing/print\_view\_manager.cc
[modify] https://crrev.com/d2758e3fc7e0b51b4b6e172aca312e499b0b7d4b/chrome/browser/printing/print\_view\_manager\_base.h

 $\textbf{[modify]} \ https://crrev.com/d2758e3fc7e0b51b4b6e172aca312e499b0b7d4b/chrome/browser/printing/print\_view\_manager.html. \\$ 

Comment 42 by sheriffbot on Thu, Nov 4, 2021, 1:30 PM EDT Project Member

Labels: -Restrict-View-SecurityNotify allpublic

This bug has been closed for more than 14 weeks. Removing security view restrictions.

For more details visit https://www.chromium.org/issue-tracking/autotriage - Your friendly Sheriffbot

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