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## RUSTSEC-2020-0148

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Multiple soundness issues in `Ptr`

**Reported** December 10, 2020

**Issued** March 26, 2021 (last modified: October 19, 2021)

**Package** [cgc](#) ([crates.io](#))

**Type** Vulnerability

**Categories** [memory-corruption](#)

**Keywords** [#memory-safety](#) [#aliasing](#) [#concurrency](#)

**Aliases** [CVE-2020-36466](#)  
[CVE-2020-36467](#)  
[CVE-2020-36468](#)

**Details** <https://github.com/playXE/cgc/issues/5>

**CVSS Score** 5.9 MEDIUM

**CVSS Details**

Attack vector	Network
Attack complexity	High
Privileges required	None
User interaction	None
Scope	Unchanged
Confidentiality	None
Integrity	None
Availability	High

**CVSS Vector** `CVSS:3.1/AV:N/AC:H/PR:N/UI:N/S:U/C:N/I:N/A:H`

**Patched** no patched versions

### Description

Affected versions of this crate have the following issues:

1. `Ptr` implements `Send` and `Sync` for all types, this can lead to data races by sending non-thread safe types across threads.
2. `Ptr::get` violates mutable alias rules by returning multiple mutable references to the same object.
3. `Ptr::write` uses non-atomic writes to the underlying pointer. This means that when used across threads it can lead to data races.