

# What's new in Go

October 2022

# proposal: arena: new package providing memory arenas

(ongoing discussion)

- Allocate memory objects in a contiguous region of memory
- Region based memory management
- Implemented at Google shows savings of up to 15% in CPU and Memory usage
- Reduces garbage collection CPU time and heap memory usage

# math/rand: seed global generator randomly

(accepted on October 12)

- Auto-seeding would also fix any programs that are missing calls to Seed and think they are getting non-deterministic values but are not.
- Auto-seeding would break programs that have no calls to Seed and expect a deterministic sequence

fmt.Println(rand.Uint64())	
fmt.Println(rand.Uint64())	
r := rand.New(rand.NewSource(1))	5577006791947779410
fmt.Println(r.Uint64())	8674665223082153551
fmt.Println(r.Uint64())	5577006791947779410
	8674665223082153551

## spec: adjust scope of type parameters declared by method receivers

- Old: The scope of an identifier denoting a type parameter of a function or declared by a method receiver is the function body and all parameter lists of the function.
- New: The scope of an identifier denoting a type parameter of a function or declared by a method receiver *starts after the function name and ends at the end of the function body*

```
type T[T any] struct {}  
func (T[T]) m() {} // error: T is not a generic type
```

# os/exec: add fields for managing termination signals and pipes

(accepted October 20)

exec.CommandContext

- Context context.Context
- Interrupt os.Signal
- WaitDelay time.Duration

# New atomic types (sync/atomic)

(go 1.19)

- Bool
- Int32
- Int64
- Uint32
- Uint64
- Uintptr
- Pointer

# New unix build constraint

(go 1.19)

// go:build unix

This is satisfied if GOOS is any of:

- aix
- android
- darwin
- dragonfly
- freebsd
- hurd
- illumos
- ios
- linux
- netbsd
- openbsd
- solaris

# How to stay up to date with Go development

Tip of the month:

- Subscribe to issue [golang/go#33502](https://github.com/golang/go/issues/33502) to receive weekly updates about proposals.

More tips:

- whats-new.md in <https://github.com/goamsterdam/meetups>

You can do the next “What’s new in Go”!