Package ‘ratelimitr’

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Type    Package
Title   Rate Limiting for R
Version 0.4.1
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Description Allows to limit the rate at which one or more functions can be called.
License MIT + file LICENSE
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limit_rate

Limit the rate at which a function will execute

Description
Limit the rate at which a function will execute

Usage
limit_rate(f, ..., precision = 60)

## S3 method for class 'list'
limit_rate(f, ..., precision = 60)

## S3 method for class 'function_list'
limit_rate(f, ..., precision = 60)

## S3 method for class 'function'
limit_rate(f, ..., precision = 60)

Arguments

f A single function to be rate-limited, or a named list of functions
...
One or more rates, created using rate
precision The precision with which time intervals can be measured, in hertz

Value
If \( f \) is a single function, then a new function with the same signature and (eventual) behavior as the original function, but rate limited. If \( f \) is a named list of functions, then a new list of functions with the same names and signatures, but collectively bound by a shared rate limit.

See Also
rate, UPDATE_RATE

Examples

## limiting a single function
f <- limit_rate(Sys.time, rate(n = 5, period = .1))
res <- replicate(10, f())
## show the elapsed time between each function call:
round(res[-1] - head(res, -1), 3)

## for multiple functions, make sure the list is named:
f <- function() 1
g <- function() 2
limited <- limit_rate(list(f = f, g = g), rate(n = 1, period = .1))
rate

Create a new rate

Description
Create a new rate

Usage
rate(n, period)

Arguments
n Number of allowed events within a period
period Length (in seconds) of measurement period

See Also
limit_rate

Examples

## a function
f <- function() NULL

## limit f to 10 calls per second
limited_f <- limit_rate(f, rate(n = 10, period = 1))

reset

Re-create a rate-limited function

Description
This function does not modify the original rate-limited function, instead it returns a new function with the same rate limits (but no memory of prior function calls).

Usage
reset(f)

Arguments
f A rate-limited function or group of functions
Examples

```r
f <- function() NULL
f_lim <- limit_rate(f, rate(n = 1, period = .1))
f_lim() ## the next call to f_lim will trigger the rate limit

f_lim2 <- reset(f_lim) ## but f_lim2 has a fresh start

## f_lim2 behaves as though no calls have been made
system.time(f_lim2())

## while f_lim is still constrained
system.time(f_lim())
```

UPDATE_RATE

Update the rate limit of an existing rate limited function

Description

UPDATE_RATE modifies an existing rate-limited function in place, changing the rate limits without otherwise altering the function’s behavior. When a rate limited function has its rate limits updated, the previous rate limits and any calls that would have counted against those rate limits are immediately forgotten, and only the new rate limits are obeyed going forward.

Usage

```r
UPDATE_RATE(lf, ..., precision = 60)
```

Arguments

- `lf` A rate-limited function or group of functions
- `...` One or more rates, created using `rate`
- `precision` The precision with which time intervals can be measured, in hertz

Examples

```r
f <- function() NULL
f_lim <- limit_rate(f, rate(n = 1, period = .1))

# update the rate limits to 2 calls per .1 second
UPDATE_RATE(f_lim, rate(n = 2, period = .1))
```
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