

# Maintaining Ftrace

My unique way of doing things!



# Introduction

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- I'm very much grounded in this, so don't expect me to do what you do!
- This is all just for fun anyway 😊

# My Server

## Dell PowerEdge T430

- Got it from NewEgg
  - Refurbished
- 8 Bay 3.5" Swappable HDs
- 2x Intel Xeon E5-2683 v3  
2.0GHz 14 Core Processors
- 256GB DDR4



# My Personal Workstation

## Put together myself

- Intel Xeon E5-2620 V4 Broadwell-EP 2.1 GHz
- 8 x 256KB L2 Cache
- 20MB L3 Cache
- 64GB (4 x 16GB) DDR4 SDRAM ECC

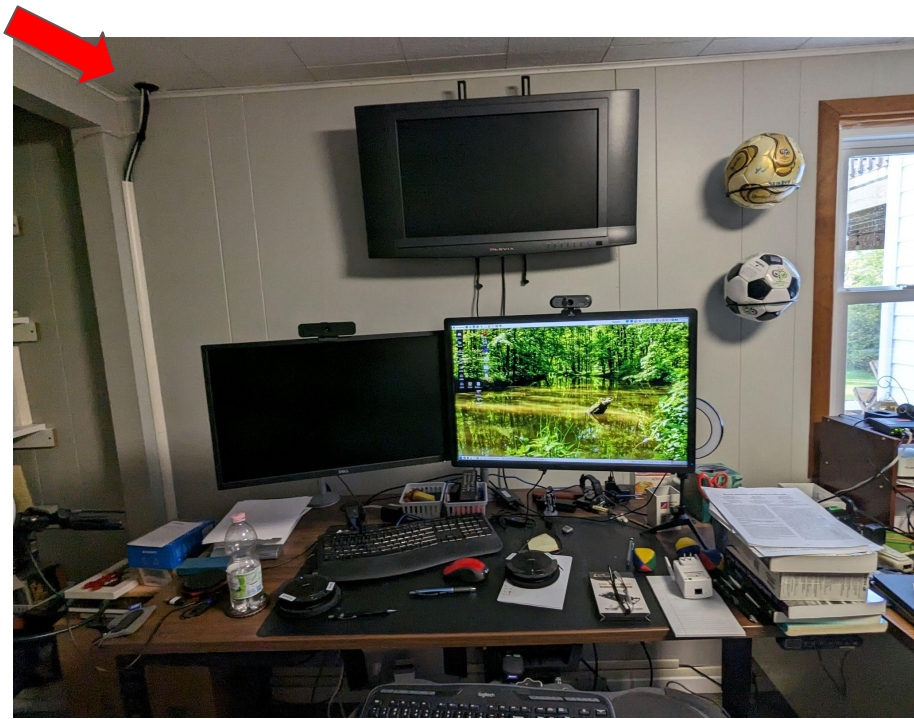




# My Desk



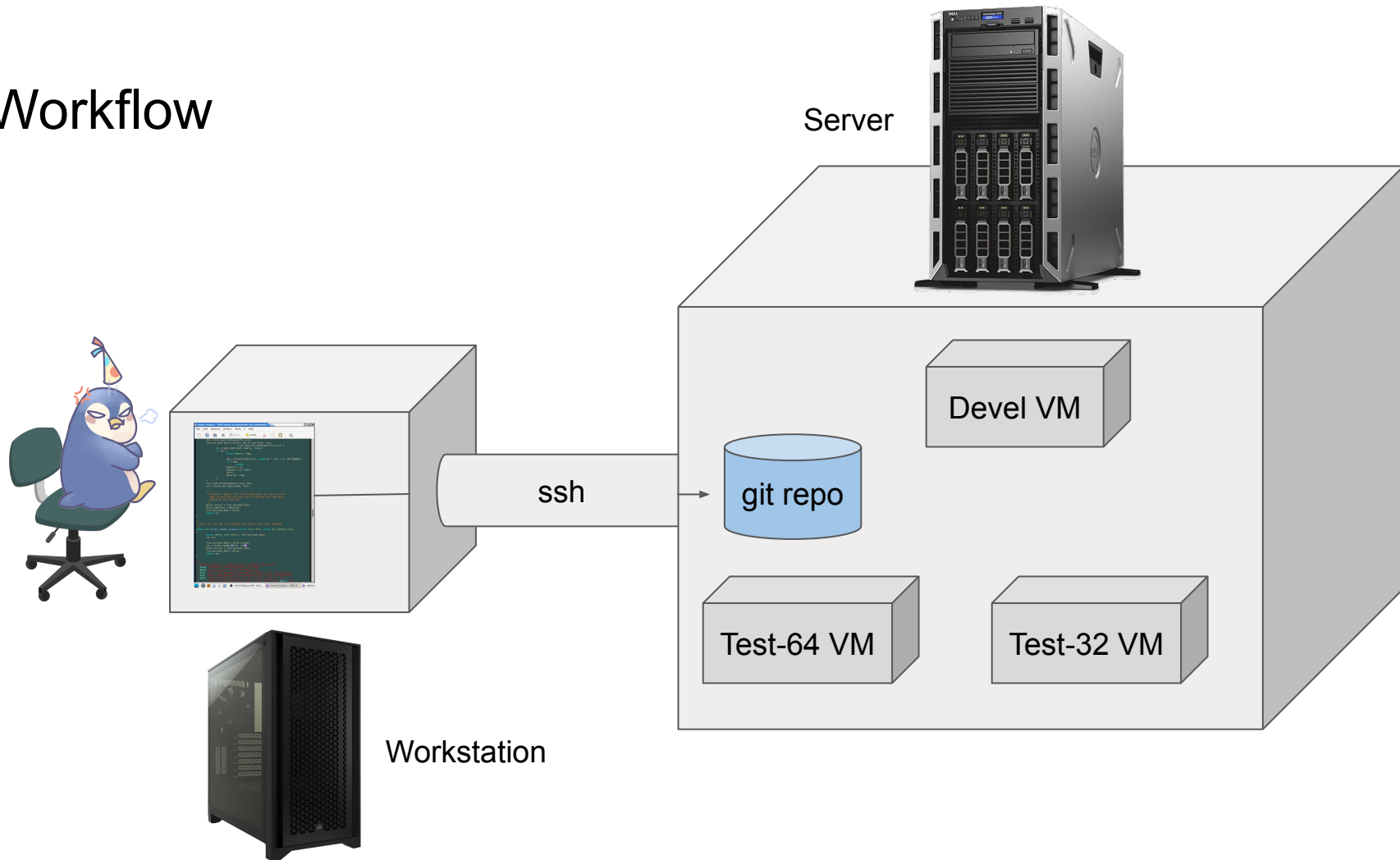
# My Desk



# USB over CAT6

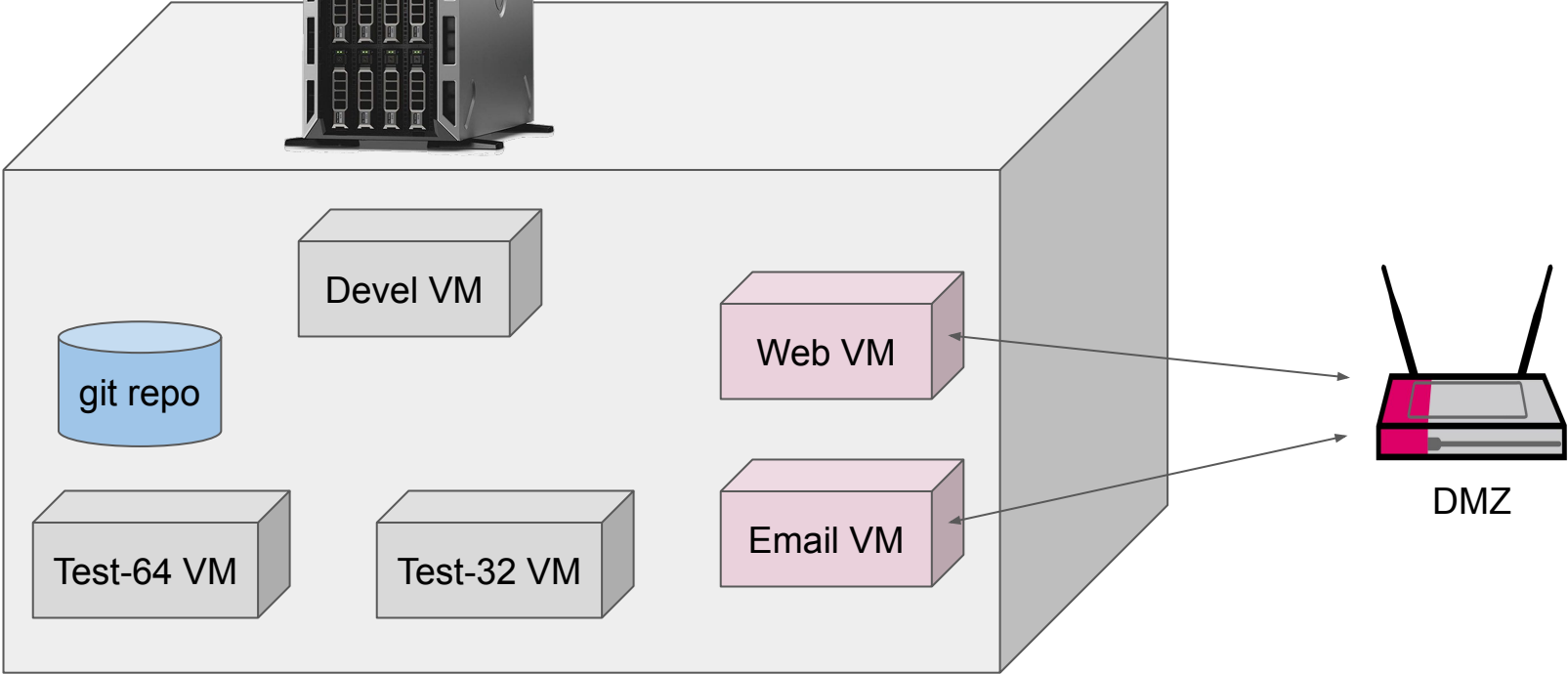


# Workflow



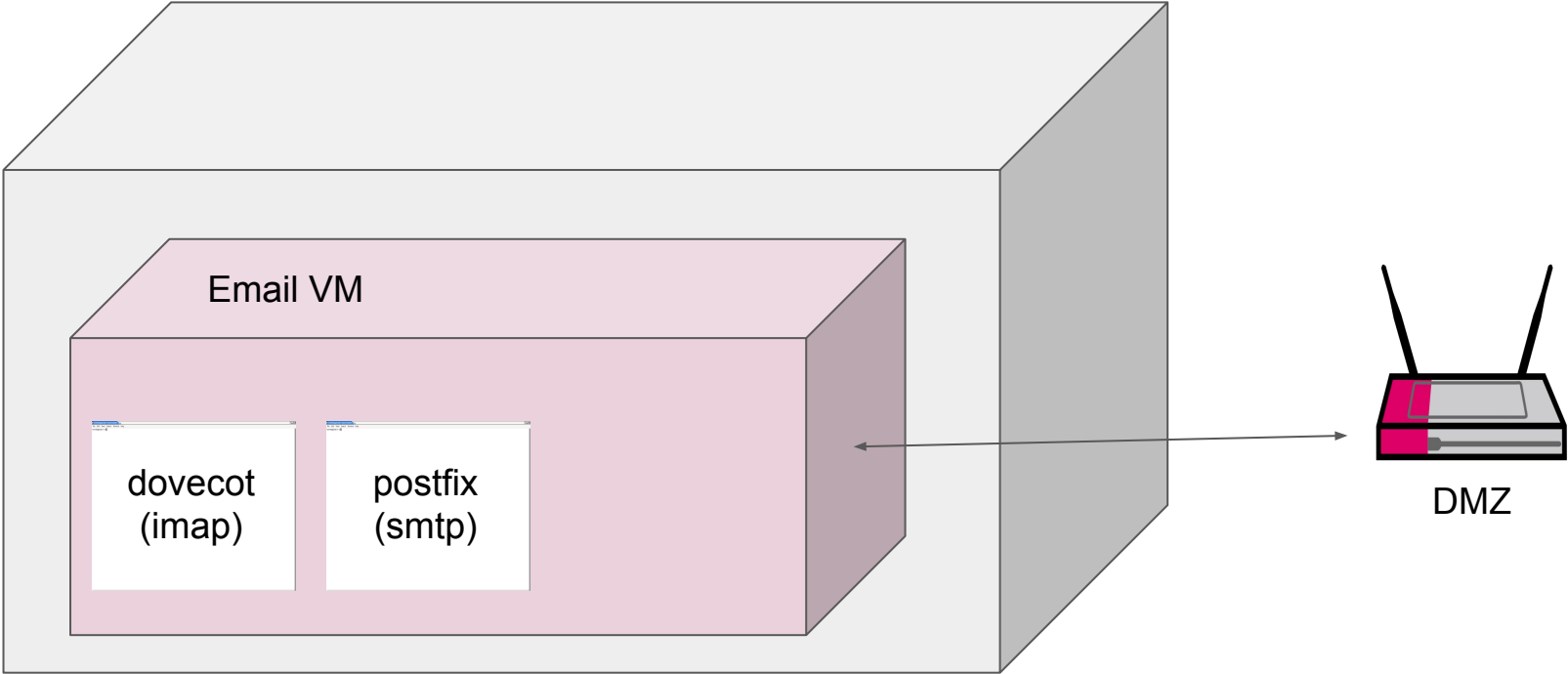
# Email

Server



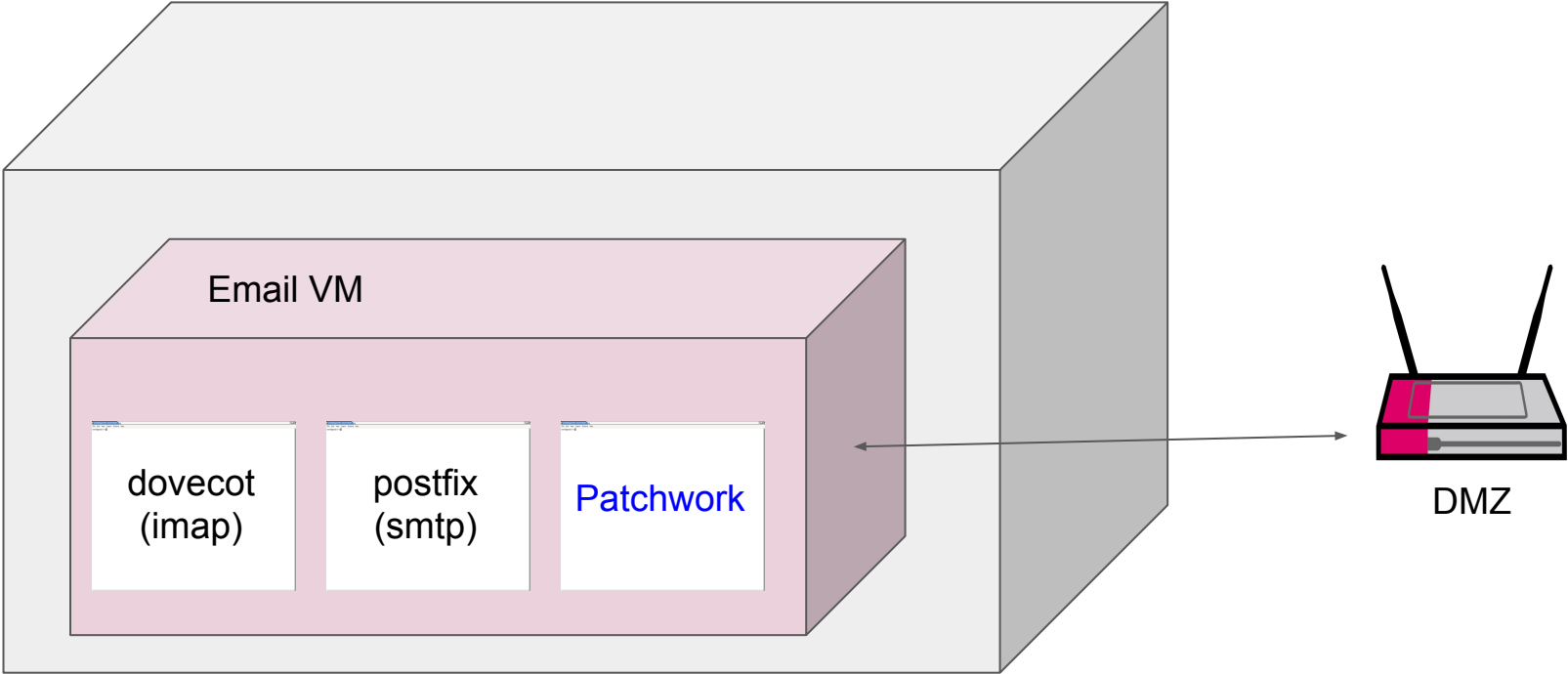
# Email



Server



# Email

Server



Show patches with: State = Action Required  | Archived = No  | 2580 patches

« 1 2 3 4 ... 25 26 »

<input type="checkbox"/> Patch	Series	A/R/T	S/W/F	▲ Date	Submitter	Delegate	State
<input type="checkbox"/> sched: Filter root_task_group at the beginning	sched: Filter root_task_group at the beginning	---	---	2023-09-22	Haifeng Xu		New
<input type="checkbox"/> [v2] sched: fix warning in bandwidth distribution	[v2] sched: fix warning in bandwidth distribution	---	---	2023-09-22	Josh Don		New
<input type="checkbox"/> [printk,v1] printk: fix illegal pbufs access for ICONFIG_PRINTK	[printk,v1] printk: fix illegal pbufs access for ICONFIG_PRINTK	- 1 -	---	2023-09-20	John Ogness		New
<input type="checkbox"/> [v2] sched/rt: move back to RT_GROUP_SCHED and rename it child	[v2] sched/rt: move back to RT_GROUP_SCHED and rename it child	- 1 -	---	2023-09-20	Yajun Deng		New
<input type="checkbox"/> [2/2] sched: Update reference to sched_debug.c	sched: Small cleanups	---	---	2023-09-20	Sebastian Andrzej Siewior		New
<input type="checkbox"/> [1/2] sched: Remove sysctl sched_child_runs_first.	sched: Small cleanups	---	---	2023-09-20	Sebastian Andrzej Siewior		New
<input type="checkbox"/> printk/nbcon: Add assert that CPU migration is disabled when calling nbcon_context_try_acquire()	printk/nbcon: Add assert that CPU migration is disabled when calling nbcon_context_try_acquire()	---	---	2023-09-20	Petr Mladek		New
<input type="checkbox"/> [printk,v2,11/11] lockdep: Add atomic write enforcement for lockdep splats	[printk,v2,01/11] printk: Make console_is_usable() available to nbcon	---	---	2023-09-19	John Ogness		New
<input type="checkbox"/> [printk,v2,09/11] panic: Add atomic write enforcement to oops	[printk,v2,01/11] printk: Make console_is_usable() available to nbcon	---	---	2023-09-19	John Ogness		New
<input type="checkbox"/> [printk,v2,08/11] panic: Add atomic write enforcement to warn/panic	[printk,v2,01/11] printk: Make console_is_usable() available to nbcon	---	---	2023-09-19	John Ogness		New
<input type="checkbox"/> [printk,v2,07/11] printk: nbcon: Wire up nbcon into console_flush_all()	[printk,v2,01/11] printk: Make console_is_usable() available to nbcon	---	---	2023-09-19	John Ogness		New
<input type="checkbox"/> [printk,v2,06/11] printk: nbcon: Wire up nbcon console atomic flushing	[printk,v2,01/11] printk: Make console_is_usable() available to nbcon	---	---	2023-09-19	John Ogness		New
<input type="checkbox"/> [printk,v2,05/11] printk: nbcon: Provide function for atomic flushing	[printk,v2,01/11] printk: Make console_is_usable() available to nbcon	---	---	2023-09-19	John Ogness		New
<input type="checkbox"/> [printk,v2,04/11] printk: nbcon: Provide functions to mark atomic write sections	[printk,v2,01/11] printk: Make console_is_usable() available to nbcon	---	---	2023-09-19	John Ogness		New
<input type="checkbox"/> [printk,v2,03/11] printk: Add @flags argument for console_is_usable()	[printk,v2,01/11] printk: Make console_is_usable() available to nbcon	- 1 -	---	2023-09-19	John Ogness		New
<input type="checkbox"/> [printk,v2,02/11] printk: Let console_is_usable() handle nbcon	[printk,v2,01/11] printk: Make console_is_usable() available to nbcon	- 1 -	---	2023-09-19	John Ogness		New
<input type="checkbox"/> [printk,v2,01/11] printk: Make console_is_usable() available to nbcon	[printk,v2,01/11] printk: Make console_is_usable() available to nbcon	- 1 -	---	2023-09-19	John Ogness		New
<input type="checkbox"/> [v3,3/3] doc: trusted-encrypted: add DCP as new trust source	DCP as trusted keys backend	---	---	2023-09-18	David Gstir		New
<input type="checkbox"/> [v3,2/3] KEYS: trusted: Introduce support for NXP DCP-based trusted keys	DCP as trusted keys backend	---	---	2023-09-18	David Gstir		New
<input type="checkbox"/> [v3,1/3] crypto: mxs-dcp: Add support for hardware provided keys	DCP as trusted keys backend	---	---	2023-09-18	David Gstir		New
<input type="checkbox"/> [printk,v5,8/8] printk: nbcon: Allow drivers to mark unsafe regions and check state	provide nbcon base	- 1 -	---	2023-09-16	John Ogness		New
<input type="checkbox"/> [printk,v5,7/8] printk: nbcon: Add emit function and callback function for atomic printing	provide nbcon base	- 1 -	---	2023-09-16	John Ogness		New
<input type="checkbox"/> [printk,v5,6/8] printk: nbcon: Add sequence handling	provide nbcon base	- 1 -	---	2023-09-16	John Ogness		New
<input type="checkbox"/> [printk,v5,5/8] printk: nbcon: Add ownership state functions	provide nbcon base	- 1 -	---	2023-09-16	John Ogness		New
<input type="checkbox"/> [printk,v5,4/8] printk: nbcon: Add buffer management	provide nbcon base	- 1 -	---	2023-09-16	John Ogness		New
<input type="checkbox"/> [printk,v5,3/8] printk: Make static printk buffers available to nbcon	provide nbcon base	- 1 -	---	2023-09-16	John Ogness		New
<input type="checkbox"/> [printk,v5,2/8] printk: nbcon: Add acquire/release logic	provide nbcon base	- 1 -	---	2023-09-16	John Ogness		New
<input type="checkbox"/> [printk,v5,1/8] printk: Add non-BKL (nbcon) console basic infrastructure	provide nbcon base	- 1 -	---	2023-09-16	John Ogness		New
<input type="checkbox"/> selftests/user_events: Fix to unmount tracefs when test created mount	selftests/user_events: Fix to unmount tracefs when test created mount	- 1 -	---	2023-09-15	Beau Belgrave		New
<input type="checkbox"/> [2/2] sched/eevdf: Use sched_attr::sched_runtime to set request/slice suggestion	sched/eevdf: sched_attr::sched_runtime slice hint	---	---	2023-09-15	Peter Zijlstra		New
<input type="checkbox"/> [1/2] sched/eevdf: Also update slice on placement	sched/eevdf: sched_attr::sched_runtime slice hint	---	---	2023-09-15	Peter Zijlstra		New
<input type="checkbox"/> [v2,2/2] static_call: Fix a wild-memory-access bug when static_call_key_sites(key) is true	static_call: Fix two wild-memory-access bugs in static_call_del_module()	---	---	2023-09-15	Jinjie Ruan		New



# .procmailrc-patchwork

```
:0 Hc: mypatchwork.lock
* Subject: .*for-next
| /home/rostedt/bin/review-patch

:0 Hc: mypatchwork.lock
* Subject: .*for-linus
| /home/rostedt/bin/review-patch

:0 Hc
* Subject: .*PATCH
* !Subject: .*linus-commit
* !Subject: .*for-next
* !Subject: .*for-linus
{
    :0 H
    * !(To|CC): .*linux-kernel
    /dev/null

    :0 H
    * (To|CC): .*linux-trace-kernel
    /dev/null

    :0 EB
    * ^This is a note to let you know that I've just added the patch titled$
    /dev/null

    :0 c
    $MAILDIR/patchwork

    :0 : mypatchwork.lock
    | /home/rostedt/bin/supersede-patch
}
```

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:0 Hc: mypatchwork.lock
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| /home/rostedt/bin/review-patch

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* Subject: .*PATCH
* !Subject: .*linus-commit
* !Subject: .*for-next
* !Subject: .*for-linus
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    * !(To|CC): .*linux-kernel
    /dev/null

    :0 H
    * (To|CC): .*linux-trace-kernel
    /dev/null

    :0 EB
    * ^This is a note to let you know that I've just added the patch titled$
    /dev/null

    :0 c
    $MAILEDIR/patchwork

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```



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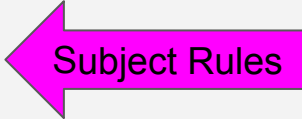
:0 Hc
* Subject: .*PATCH
* !Subject: .*linux-commit
* !Subject: .*for-next
* !Subject: .*for-linus
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    * !(To|CC): .*linux-kernel
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```



Subject Rules

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:0 Hc: mypatchwork.lock
* Subject: .*for-linus
| /home/rostedt/bin/review-patch

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* !Subject: .*linus-commit
* !Subject: .*for-next
* !Subject: .*for-linus
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Not sent to LKML?

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* Subject: .*for-next
| /home/rostedt/bin/review-patch

:0 Hc: mypatchwork.lock
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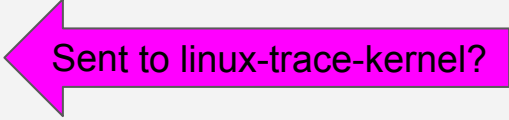
:0 Hc
* Subject: .*PATCH
* !Subject: .*linus-commit
* !Subject: .*for-next
* !Subject: .*for-linus
{
    :0 H
    * !(To|CC): .*linux-kernel
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    :0 H
    * (To|CC): .*linux-trace-kernel
    /dev/null

    :0 EB
    * ^This is a note to let you know that I've just added the patch titled$
    /dev/null

    :0 c
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}
```



Sent to linux-trace-kernel?

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| /home/rostedt/bin/review-patch

:0 Hc: mypatchwork.lock
* Subject: .*for-linus
| /home/rostedt/bin/review-patch

:0 Hc
* Subject: .*PATCH
* !Subject: .*linus-commit
* !Subject: .*for-next
* !Subject: .*for-linus
{
    :0 H
    * !(To|CC): .*linux-kernel
    /dev/null

    :0 H
    * (To|CC): .*linux-trace-kernel
    /dev/null

    :0 EB
    * ^This is a note to let you know that I've just added the patch titled$
    /dev/null

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    $MAILDIR/patchwork

    :0 : mypatchwork.lock
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```



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:0 Hc: mypatchwork.lock
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| /home/rostedt/bin/review-patch

:0 Hc
* Subject: .*PATCH
* !Subject: .*linus-commit
* !Subject: .*for-next
* !Subject: .*for-linus
{
    :0 H
    * !(To|CC): .*linux-kernel
    /dev/null

    :0 H
    * (To|CC): .*linux-trace-kernel
    /dev/null

    :0 EB
    * ^This is a note to let you know that I've just added the patch titled$
    /dev/null

    :0 c
    $MAILEDIR/patchwork

    :0 : mypatchwork.lock
    | /home/rostedt/bin/supersede-patch
}
```



Copy to "patchwork" folder

# .procmailrc-patchwork

```
:0 Hc: mypatchwork.lock
* Subject: .*for-next
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:0 Hc: mypatchwork.lock
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| /home/rostedt/bin/review-patch

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* Subject: .*PATCH
* !Subject: .*linus-commit
* !Subject: .*for-next
* !Subject: .*for-linus
{
    :0 H
    * !(To|CC): .*linux-kernel
    /dev/null

    :0 H
    * (To|CC): .*linux-trace-kernel
    /dev/null

    :0 EB
    * ^This is a note to let you know that I've just added the patch titled$
    /dev/null

    :0 c
    $MAILDIR/patchwork

    :0 : mypatchwork.lock
    | /home/rostedt/bin/supersede-patch
}
```



New version?



# .procmailrc-linus

I subscribe to [git-commits-head@vger.kernel.org](mailto:git-commits-head@vger.kernel.org)!

# .procmailrc-linus

I subscribe to [git-commits-head@vger.kernel.org](mailto:git-commits-head@vger.kernel.org)!

(Sends you an email for **every** commit Linus accepts!)



# .procmailrc-linus

I subscribe to [git-commits-head@vger.kernel.org](mailto:git-commits-head@vger.kernel.org)!

(Sends you an email for **every** commit Linus accepts!)

```
:0 H
* List-id: <git-commits-head.vger.kernel.org>
{
    :0 c: mypatchwork.lock
    | /home/rostedt/bin/accept-patch-nofail

    :0 B
    * !Signed-off-by: Steven Rostedt
    /dev/null

    :0 fw
    | /bin/sed -e 's/^Subject: /Subject: [linus-commit]/'
}
```

# .procmailrc-linus

I subscribe to [git-commits-head@vger.kernel.org](mailto:git-commits-head@vger.kernel.org)!

(Sends you an email for **every** commit Linus accepts!)

```
:0 H
* List-id: <git-commits-head.vger.kernel.org>
{
    :0 c: mypatchwork.lock
    | /home/rostedt/bin/accept-patch-nofail

    :0 B
    * !Signed-off-by: Steven Rostedt
    /dev/null

    :0 fw
    | /bin/sed -e 's/^Subject: /Subject: [linus-commit]/'
}
```



Accept all patches!

# .procmailrc-linus

I subscribe to [git-commits-head@vger.kernel.org](mailto:git-commits-head@vger.kernel.org)!

(Sends you an email for **every** commit Linus accepts!)

```
:0 H
* List-id: <git-commits-head.vger.kernel.org>
{
  :0 c: mypatchwork.lock
  | /home/rostedt/bin/accept-patch-nofail

  :0 B
  * !Signed-off-by: Steven Rostedt ← Ignore?
  /dev/null

  :0 fw
  | /bin/sed -e 's/^Subject: /Subject: [linus-commit]/'
}
```

# .procmailrc-linus

I subscribe to [git-commits-head@vger.kernel.org](mailto:git-commits-head@vger.kernel.org)!

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    /dev/null

    :0 fw
    | /bin/sed -e 's/^Subject: /Subject: [linus-commit]/'
}
```



Add “[linus-commit]”

☒	[linus-commit]x86/kprobes: Prohibit probing on compiler generated CFI checking code	Linux Kernel Mailing List	08/30/2023(Wed) 13:59	6.62KB
☒	[linus-commit]tracing: Add back FORTIFY_SOURCE logic to kernel_stack event structure	Linux Kernel Mailing List	09/01/2023(Fri) 19:40	10.94KB
☒	[linus-commit]ring_buffer: Use try_cmpxchg instead of cmpxchg	Linux Kernel Mailing List	09/01/2023(Fri) 19:40	6.16KB
☒	[linus-commit]tracing: Remove unnecessary copying of tr->current_trace	Linux Kernel Mailing List	09/01/2023(Fri) 19:40	6.48KB
☒	[linus-commit]tracing: Add free_trace_iter_content() helper function	Linux Kernel Mailing List	09/01/2023(Fri) 19:40	6.26KB
☒	[linus-commit]tracing: Set actual size after ring buffer resize	Linux Kernel Mailing List	09/01/2023(Fri) 19:40	5.57KB
☒	[linus-commit]tracing: Require all trace events to have a TRACE_SYSTEM	Linux Kernel Mailing List	09/01/2023(Fri) 19:40	5.49KB
☒	[linus-commit]eventfs: Implement tracefs_inode_cache	Linux Kernel Mailing List	09/01/2023(Fri) 19:40	6.94KB
☒	[linus-commit]tracefs: Rename and export some tracefs functions	Linux Kernel Mailing List	09/01/2023(Fri) 19:40	8.10KB
☒	[linus-commit]eventfs: Implement eventfs_dir creation functions	Linux Kernel Mailing List	09/01/2023(Fri) 19:40	12.97KB
☒	[linus-commit]eventfs: Implement eventfs file add functions	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	8.48KB
☒	[linus-commit]eventfs: Implement eventfs lookup, read, open functions	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	15.92KB
☒	[linus-commit]eventfs: Implement functions to create files and dirs when accessed	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	10.24KB
☒	[linus-commit]eventfs: Implement removal of meta data from eventfs	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	10.01KB
☒	[linus-commit]eventfs: Move tracing/events to eventfs	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	16.80KB
☒	[linus-commit]test: ftrace: Fix kprobe test for eventfs	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	6.76KB
☒	[linus-commit]tracing/filters: Dynamically allocate filter_pred.regex	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	9.89KB
☒	[linus-commit]tracing/filters: Enable filtering a cpumask field by another cpumask	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	10.21KB
☒	[linus-commit]tracing/filters: Enable filtering a scalar field by a cpumask	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	9.94KB
☒	[linus-commit]tracing/filters: Enable filtering the CPU common field by a cpumask	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	6.54KB
☒	[linus-commit]tracing/filters: Optimise cpumask vs cpumask filtering when user mask is a single CPU	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	7.15KB
☒	[linus-commit]tracing/filters: Optimise scalar vs cpumask filtering when the user mask is a single CPU	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	5.63KB
☒	[linus-commit]tracing/filters: Optimise CPU vs cpumask filtering when the user mask is a single CPU	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	5.69KB
☒	[linus-commit]tracing/filters: Further optimise scalar vs cpumask comparison	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	5.89KB
☒	[linus-commit]tracing/filters: Document cpumask filtering	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	5.10KB
☒	[linus-commit]tracing: Remove unused function declarations	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	5.21KB
☒	[linus-commit]ftrace: Remove empty declaration ftrace_enable_daemon() and ftrace_disable_daemon()	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	5.02KB
☒	[linus-commit]tracing/user_events: Optimize safe list traversals	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	6.61KB
☒	[linus-commit]tracefs: Avoid changing i_mode to a temp value	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	5.62KB
☒	[linus-commit]tracefs: Remove kerneldoc from struct eventfs_file	Linux Kernel Mailing List	09/01/2023(Fri) 19:41	5.54KB

# Linux Kernel Tracing ([linux-trace-kernel@vger.kernel.org](mailto:linux-trace-kernel@vger.kernel.org))

Patchwork Linux Kernel Tracing Development		Patches	Bundles	About this project	Login	Register	Mail settings
Show patches with: State = Action Required   Archived = No   119 patches							
« 1 2 »							
Patch	Series	A/R/T	S/W/F	▲ Date	Submitter	Delegate	State
<a href="#">rtla: fix a example in rtla-timerlat-hist.rst</a>	<a href="#">rtla: fix a example in rtla-timerlat-hist.rst</a>	---	---	2023-09-19	<a href="#">Xie XiuQi</a>		New
<a href="#">vmscan: add trace events for lru_gen</a>	<a href="#">vmscan: add trace events for lru_gen</a>	---	---	2023-09-19	<a href="#">Jaewon Kim</a>		New
<a href="#">kprobes: Remove unnecessary initial values of variables</a>	<a href="#">kprobes: Remove unnecessary initial values of variables</a>	1--	---	2023-09-19	<a href="#">Li zeming</a>		New
<a href="#">[v3,13/13] bpf: remove CONFIG_BPF_JIT dependency on CONFIG_MODULES of</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,12/13] kprobes: remove dependency on CONFIG_MODULES</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,11/13] x86/ftrace: enable dynamic ftrace without CONFIG_MODULES</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,10/13] arch: make execmem setup available regardless of CONFIG_MODULES</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,09/13] powerpc: extend execmem_params for kprobes allocations</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,08/13] riscv: extend execmem_params for generated code allocations</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,07/13] arm64, execmem: extend execmem_params for generated code allocations</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,06/13] mm/execmem: introduce execmem_data_alloc()</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,05/13] modules, execmem: drop module_alloc</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,04/13] mm/execmem, arch: convert remaining overrides of module_alloc to execmem</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,03/13] mm/execmem, arch: convert simple overrides of module_alloc to execmem</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,02/13] mm: introduce execmem_text_alloc() and execmem_free()</a>	<a href="#">mm: jit/text allocator</a>	---	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[v3,01/13] nios2: define virtual address space for modules</a>	<a href="#">mm: jit/text allocator</a>	2--	---	2023-09-18	<a href="#">Mike Rapoport</a>		New
<a href="#">[3/9] mm/damon/core: use nr_accesses_bp as a source of damos_before_apply tracepoint</a>	<a href="#">mm/damon: implement DAMOS apply intervals</a>	---	---	2023-09-16	<a href="#">SeongJae Park</a>		New
<a href="#">tracing/timerlat: Hotplug support for the user-space interface</a>	<a href="#">tracing/timerlat: Hotplug support for the user-space interface</a>	---	---	2023-09-15	<a href="#">Daniel Bristot de Oliveira</a>		New
<a href="#">tools/rtla: Do not stop user-space if a cpu is offline</a>	<a href="#">tools/rtla: Do not stop user-space if a cpu is offline</a>	---	---	2023-09-15	<a href="#">Daniel Bristot de Oliveira</a>		New



Patch	Series	A/R/T	S/W/F	▲ Date	Submitter	Delegate	State
[v4,2/2] selftests/ftrace: Add new test case which checks non unique symbol	Return EADDRNOTAVAIL when func matches several symbols during kprobe creation	- - -	- - -	2023-08-25	Francis Laniel		New
[v4,1/2] tracing/kprobes: Return EADDRNOTAVAIL when func matches several symbols	Return EADDRNOTAVAIL when func matches several symbols during kprobe creation	- - -	- - -	2023-08-25	Francis Laniel		New
[v4] tracepoint: add new `tcp:tcp_ca_event` trace event	[v4] tracepoint: add new `tcp:tcp_ca_event` trace event	- - -	- - -	2023-08-25	Manjusaka		New
[RFC,v1,1/1] tracing/kprobes: Return ENAMESVRLSYMS when func matches several symbols	Return ENAMESVRLSYMS when func matches several symbols during PMU kprobe creation	- - -	- - -	2023-08-23	Francis Laniel		New
[v4,9/9] Documentation: tracing: Add a note about argument and retval access	<u>bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs</u>	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,8/9] Documentations: probes: Update fprobe document to use ftrace_regs	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,7/9] bpf: Enable kprobe_multi feature if CONFIG_FPROBE is enabled	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,6/9] tracing/fprobe: Enable fprobe events with CONFIG_DYNAMIC_FTRACE_WITH_ARGS	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	- - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,5/9] ftrace: Add ftrace_partial_regs() for converting ftrace_regs to pt_regs	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,4/9] fprobe: rethook: Use ftrace_regs in fprobe exit handler and rethook	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,3/9] tracing: Expose ftrace_regs regardless of CONFIG_FUNCTION_TRACER	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,2/9] fprobe: Use fprobe_regs in fprobe entry handler	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,1/9] Documentation: probes: Add a new ret_ip callback parameter	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v6,9/9] Documentation: tracing: Update fprobe event example with BTF field	tracing: Improbe BTF support on probe events	1 1 -	- - -	2023-08-22	Masami Hiramatsu (Google)		Queued
[v6,8/9] selftests/ftrace: Add BTF fields access testcases	tracing: Improbe BTF support on probe events	1 1 -	- - -	2023-08-22	Masami Hiramatsu (Google)		Queued
[v6,7/9] tracing/fprobe-event: Assume fprobe is a return event by \$retval	tracing: Improbe BTF support on probe events	1 - -	- - -	2023-08-22	Masami Hiramatsu (Google)		Queued
[v6,6/9] tracing/probes: Add string type check with BTF	tracing: Improbe BTF support on probe events	1 - -	- - -	2023-08-22	Masami Hiramatsu (Google)		Queued
[v6,5/9] tracing/probes: Support BTF field access from \$retval	tracing: Improbe BTF support on probe events	1 - -	- - -	2023-08-22	Masami Hiramatsu (Google)		Queued

Patch	Series	A/R/T	S/W/F	▲ Date	Submitter	Delegate	State
visr: use canonical trace path	visr: use canonical trace path	- 2 -	- - -	2023-08-23	Russ Zwisler		New
[v4,2/2] selftests/ftrace: Add new test case which checks non unique symbol	Return EADDRNOTAVAIL when func matches several symbols during kprobe creation	- - -	- - -	2023-08-25	Francis Laniel		New
[v4,1/2] tracing/kprobes: Return EADDRNOTAVAIL when func matches several symbols	Return EADDRNOTAVAIL when func matches several symbols during kprobe creation	- - -	- - -	2023-08-25	Francis Laniel		New
[v4] tracepoint: add new `tcp:tcp_ca_event` trace event	[v4] tracepoint: add new `tcp:tcp_ca_event` trace event	- - -	- - -	2023-08-25	Manjusaka		New
[RFC,v1,1/1] tracing/kprobes: Return ENAMESVRLSYMS when func matches several symbols	Return ENAMESVRLSYMS when func matches several symbols during PMU kprobe creation	- - -	- - -	2023-08-23	Francis Laniel		New
[v4,9/9] Documentation: tracing: Add a note about argument and retval access	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	- 1 -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,8/9] Documentations: probes: Update fprobe document to use ftrace_regs	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,7/9] bpf: Enable kprobe_multi feature if CONFIG_FPROBE is enabled	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,6/9] tracing/fprobe: Enable fprobe events with CONFIG_DYNAMIC_FTRACE_WITH_ARGS	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	- - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,5/9] ftrace: Add ftrace_partial_regs() for converting ftrace_regs to pt_regs	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,4/9] fprobe: rethook: Use ftrace_regs in fprobe exit handler and rethook	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,3/9] tracing: Expose ftrace_regs regardless of CONFIG_FUNCTION_TRACER	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,2/9] fprobe: Use fprobe_regs in fprobe entry handler	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v4,1/9] Documentation: probes: Add a new ret_ip callback parameter	bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs	1 - -	- - -	2023-08-23	Masami Hiramatsu (Google)		New
[v6,9/9] Documentation: tracing: Update fprobe event example with BTF field	tracing: Improbe BTF support on probe events	1 1 -	- - -	2023-08-22	Masami Hiramatsu (Google)		Queued
[v6,8/9] selftests/ftrace: Add BTF fields access testcases	tracing: Improbe BTF support on probe events	1 1 -	- - -	2023-08-22	Masami Hiramatsu (Google)		Queued
[v6,7/9] tracing/fprobe-event: Assume fprobe is a return event by \$retval	tracing: Improbe BTF support on probe events	1 - -	- - -	2023-08-22	Masami Hiramatsu (Google)		Queued
[v6,6/9] tracing/probes: Add string type check with BTF	tracing: Improbe BTF support on probe events	1 - -	- - -	2023-08-22	Masami Hiramatsu (Google)		Queued
[v6,5/9] tracing/probes: Support BTF field access from \$retval	tracing: Improbe BTF support on probe events	1 - -	- - -	2023-08-22	Masami Hiramatsu (Google)		Queued



Show patches with: Series = **bpf: fprobe: rethook: Use ftrace\_regs instead of pt\_regs** | State = **Action Required** | Archived = **No** | 9 patches

Patch	Series	A/R/T	S/W/F	▲ Date	Submitter	Delegate	State
[v4,9/9] Documentation: tracing: Add a note about argument and retval access	<a href="#">bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs</a>	1 --	- - -	2023-08-23	<a href="#">Masami Hiramatsu (Google)</a>		New
[v4,8/9] Documentations: probes: Update fprobe document to use ftrace_regs	<a href="#">bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs</a>	1 --	- - -	2023-08-23	<a href="#">Masami Hiramatsu (Google)</a>		New
[v4,7/9] bpf: Enable kprobe_multi feature if CONFIG_FPROBE is enabled	<a href="#">bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs</a>	1 --	- - -	2023-08-23	<a href="#">Masami Hiramatsu (Google)</a>		New
[v4,6/9] tracing/fprobe: Enable fprobe events with CONFIG_DYNAMIC_FTRACE_WITH_ARGS	<a href="#">bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs</a>	- - -	- - -	2023-08-23	<a href="#">Masami Hiramatsu (Google)</a>		New
[v4,5/9] ftrace: Add ftrace_partial_regs() for converting ftrace_regs to pt_regs	<a href="#">bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs</a>	1 --	- - -	2023-08-23	<a href="#">Masami Hiramatsu (Google)</a>		New
[v4,4/9] fprobe: rethook: Use ftrace_regs in fprobe exit handler and rethook	<a href="#">bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs</a>	1 --	- - -	2023-08-23	<a href="#">Masami Hiramatsu (Google)</a>		New
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Show patches with: Series = **bpf: fprobe: rethook: Use ftrace\_regs instead of pt\_regs** | State = **Action Required** | Archived = **No** | 9 patches

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[v4,9/9] Documentation: tracing: Add a note about argument and retval access	<a href="#">bpf: fprobe: rethook: Use ftrace_regs instead of pt_regs</a>	1 --	- - -	2023-08-23	<a href="#">Masami Hiramatsu (Google)</a>		New
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# [v4,1/9] Documentation: probes: Add a new ret\_ip callback parameter

13362751

diff

mbox

series

**Message ID** 169280373992.282662.14835192462715188987.stgit@devnote2 (mailing list archive)**State** New**Headers** show**Series** [bpf: fprobe: rethook: Use ftrace\\_regs instead of pt\\_regs | expand](#)

## Commit Message

[Masami Hiramatsu \(Google\)](#)

Aug. 23, 2023, 3:15 p.m. UTC

**From:** Masami Hiramatsu (Google) <mhiramat@kernel.org>

Add a new ret\_ip callback parameter description.

**Fixes:** cb16330d1274 ("fprobe: Pass return address to the handlers")**Signed-off-by:** Masami Hiramatsu (Google) <mhiramat@kernel.org>

---

Changes in v4:

- Update ret\_ip description (Thanks Florent!)

---

Documentation/trace/fprobe.rst | 8 +++++--  
1 file changed, 6 insertions(+), 2 deletions(-)

## Comments

[Florent Revest](#)

Aug. 25, 2023, 4:11 p.m. UTC | #1

On wed, Aug 23, 2023 at 5:15 PM Masami Hiramatsu (Google) &lt;mhiramat@kernel.org&gt; wrote:

&gt;

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&gt;

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&gt;

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Acked-by: Florent Revest &lt;revest@chromium.org&gt;

## Patch

13362751

diff

mbox

series

```
diff --git a/Documentation/trace/fprobe.rst b/Documentation/trace/fprobe.rst
index 40dd2fbc861..5851a14eb93 100644
--- a/Documentation/trace/fprobe.rst
+++ b/Documentation/trace/fprobe.rst
@@ -91,9 +91,9 @@ The prototype of the entry/exit callback function are as follows:
.. code-block:: c

- int entry_callback(struct fprobe *fp, unsigned long entry_ip, struct pt_regs *regs, void *entry_data);
+ int entry_callback(struct fprobe *fp, unsigned long entry_ip, unsigned long ret_ip, struct pt_regs *regs, void *entry_data);

- void exit_callback(struct fprobe *fp, unsigned long entry_ip, struct pt_regs *regs, void *entry_data);
+ void exit_callback(struct fprobe *fp, unsigned long entry_ip, unsigned long ret_ip, struct pt_regs *regs, void *entry_data);

Note that the @entry_ip is saved at function entry and passed to exit handler.
If the entry callback function returns 0, the corresponding exit callback will be cancelled.
@@ -108,6 +108,10 @@ If the entry callback function returns 0, the corresponding exit callback will
Note that this may not be the actual entry address of the function but
the address where the ftrace is instrumented.

+@ret_ip
+ This is the return address that the traced function will return to,
```

Right Click here

## [v4,1/9] Documentation: probes: Add a new ret\_ip callback parameter

13362751

diff

mbx

series

**Message ID** 169280373992.282662.14835192462715188987.stgit@devnote2 (mailing list archive)  
**State** New  
**Headers** show  
**Series** bpf: fprobe: rethook: Use ftrace\_regs instead of pt\_regs | expand

### Commit Message

Masami Hiramatsu (Google)

Aug. 23, 2023, 3:15 p.m. UTC

**From:** Masami Hiramatsu (Google) <mhiramat@kernel.org>

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**Fixes:** cb16330d1274 ("fprobe: Pass return address to the handlers")

**Signed-off-by:** Masami Hiramatsu (Google) <mhiramat@kernel.org>

```
---
Changes in v4:
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Documentation/trace/fprobe.rst | 8 +++++-
1 file changed, 6 insertions(+), 2 deletions(-)
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> Signed-off-by: Masami Hiramatsu (Google) <mhiramat@kernel.org>
```

Acked-by: Florent Revest <revest@chromium.org>

### Patch

13362751

diff

mbx

series

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diff --git a/Documentation/trace/fprobe.rst b/Documentation/trace/fprobe.rst
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--- a/Documentation/trace/fprobe.rst
+++ b/Documentation/trace/fprobe.rst
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Message ID: 169280373992.282662.14835192462715188987.stgit@devnote2 (mailing list archive)  
 State: New  
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- int entry_callback(struct fprobe *fp, unsigned long entry_ip, struct pt_regs *regs, void *entry_data);
+ int entry_callback(struct fprobe *fp, unsigned long entry_ip, unsigned long ret_ip, struct pt_regs *regs, void *entry_data);
- void exit_callback(struct fprobe *fp, unsigned long entry_ip, struct pt_regs *regs, void *entry_data);
+ void exit_callback(struct fprobe *fp, unsigned long entry_ip, unsigned long ret_ip, struct pt_regs *regs, void *entry_data);

Note that the @entry_ip is saved at function entry and passed to exit handler.
If the entry callback function returns !0, the corresponding exit callback will be cancelled.
@@ -100,6 +100,10 @@ If the entry callback function returns !0, the corresponding exit callback will
Note that this may not be the actual entry address of the function but
the address where the ftrace is instrumented.
```

After in <https://patchwork.kernel.org/series/778651/mbox/> function will return to,

13362751 diff mbox series

- Open Link in New Tab
- Open Link in New Window
- Open Link in New Private Window
- Bookmark Link...
- Save Link As...
- Save Link to Pocket
- Copy Link
- Search Google for "series"
- Inspect Accessibility Properties
- Inspect (Q)

# Download the patch series

```
>$ wget -O /tmp/ftrace.patch https://patchwork.kernel.org/series/778651/mbox/
```



# Download the patch series

```
>$ wget -O /tmp/ftrace.patch https://patchwork.kernel.org/series/778651/mbox/
```

```
>$ add-links.pl /tmp/ftrace.{patch,mbox}
```

```
Link: https://lkml.kernel.org/r/169280373992.282662.14835192462715188987.stgit@devnote2
```

```
Link: https://lkml.kernel.org/r/169280375109.282662.4109179404470188137.stgit@devnote2
```

```
Link: https://lkml.kernel.org/r/169280376296.282662.3179053699894615088.stgit@devnote2
```

```
Link: https://lkml.kernel.org/r/169280377434.282662.7610009313268953247.stgit@devnote2
```

```
Link: https://lkml.kernel.org/r/169280378611.282662.4078983611827223131.stgit@devnote2
```

```
Link: https://lkml.kernel.org/r/169280379741.282662.12221517584561036597.stgit@devnote2
```

```
Link: https://lkml.kernel.org/r/169280380720.282662.17571417296398071399.stgit@devnote2
```

```
Link: https://lkml.kernel.org/r/169280381726.282662.9429943163047257398.stgit@devnote2
```

```
Link: https://lkml.kernel.org/r/169280382895.282662.14910495061790007288.stgit@devnote2
```

# Download the patch series

```
>$ wget -O /tmp/ftrace.patch https://patchwork.kernel.org/series/778651/mbox/
```

```
>$ add-links.pl /tmp/ftrace.{patch,mbox}
```

```
Link: https://lkml.kernel.org/r/169280373992.282662.14835192462715188987.stgit@devnote2  
Link: https://lkml.kernel.org/r/169280375109.282662.4109179404470188137.stgit@devnote2  
Link: https://lkml.kernel.org/r/169280376296.282662.3179053699894615088.stgit@devnote2  
Link: https://lkml.kernel.org/r/169280377434.282662.7610009313268953247.stgit@devnote2  
Link: https://lkml.kernel.org/r/169280378611.282662.4078983611827223131.stgit@devnote2  
Link: https://lkml.kernel.org/r/169280379741.282662.12221517584561036597.stgit@devnote2  
Link: https://lkml.kernel.org/r/169280380720.282662.17571417296398071399.stgit@devnote2  
Link: https://lkml.kernel.org/r/169280381726.282662.9429943163047257398.stgit@devnote2  
Link: https://lkml.kernel.org/r/169280382895.282662.14910495061790007288.stgit@devnote2
```

```
>$ git am -s /tmp/ftrace.mbox
```

```
Link: https://lkml.kernel.org/r/169280375109.282662.4109179404470188137.stgit@devnote2  
Applying: Documentation: probes: Add a new ret_ip callback parameter  
Applying: fprobe: Use fprobe_regs in fprobe entry handler  
Applying: tracing: Expose ftrace_regs regardless of CONFIG_FUNCTION_TRACER  
Applying: fprobe: rethook: Use ftrace_regs in fprobe exit handler and rethook  
Applying: ftrace: Add ftrace_partial_regs() for converting ftrace_regs to pt_regs  
Applying: tracing/fprobe: Enable fprobe events with CONFIG_DYNAMIC_FTRACE_WITH_ARGS  
Applying: bpf: Enable kprobe_multi feature if CONFIG_FPROBE is enabled  
Applying: Documentations: probes: Update fprobe document to use ftrace_regs  
error: patch failed: Documentation/trace/fprobe.rst:112  
error: Documentation/trace/fprobe.rst: patch does not apply  
Patch failed at 0008 Documentations: probes: Update fprobe document to use ftrace_regs  
hint: Use 'git am --show-current-patch=diff' to see the failed patch  
When you have resolved this problem, run "git am --continue".  
If you prefer to skip this patch, run "git am --skip" instead.  
To restore the original branch and stop patching, run "git am --abort".
```

# Using quilt to fix git am errors

```
>$ git am --show-current-patch=diff > /tmp/ftrace.patch
```

# Using quilt to fix git am errors

```
>$ git am --show-current-patch=diff > /tmp/ftrace.patch  
>$ quilt del ftrace.patch
```

# Using quilt to fix git am errors

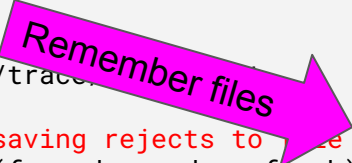
```
>$ git am --show-current-patch=diff > /tmp/ftrace.patch  
>$ quilt del ftrace.patch  
>$ quilt import /tmp/ftrace.patch
```

# Using quilt to fix git am errors

```
>$ git am --show-current-patch=diff > /tmp/ftrace.patch  
>$ quilt del ftrace.patch  
>$ quilt import /tmp/ftrace.patch  
>$ quilt push -f  
Applying patch ftrace.patch  
patching file Documentation/trace/fprobe.rst  
Hunk #2 FAILED at 112.  
1 out of 2 hunks FAILED -- saving rejects to file Documentation/trace/fprobe.rst.rej  
Applied patch ftrace.patch (forced; needs refresh)
```

# Using quilt to fix git am errors

```
>$ git am --show-current-patch=diff > /tmp/ftrace.patch  
>$ quilt del ftrace.patch  
>$ quilt import /tmp/ftrace.patch  
>$ quilt push -f  
Applying patch ftrace.patch  
patching file Documentation/trace/fprobe.rst  
Hunk #2 FAILED at 112.  
1 out of 2 hunks FAILED -- saving rejects to file Documentation/trace/fprobe.rst.rej  
Applied patch ftrace.patch (forced; needs refresh)
```





```
[-]-- Documentation/trace/fprobe.rst
+++ Documentation/trace/fprobe.rst
@@ -112,12 +112,10 @@ If the entry callback function returns !0, the corresponding exit callback will
    This is the return address that the traced function will return to,
    somewhere in the caller. This can be used at both entry and exit.

-@regs
- This is the `pt_regs` data structure at the entry and exit. Note that
- the instruction pointer of @regs may be different from the @entry_ip
- in the entry_handler. If you need traced instruction pointer, you need
- to use @entry_ip. On the other hand, in the exit_handler, the instruction
- pointer of @regs is set to the current return address.
+@fregs
+ This is the `ftrace_regs` data structure at the entry and exit. Note that
+ the instruction pointer of @fregs may be incorrect in entry handler and
+ exit handler, so you have to use @entry_ip and @ret_ip instead.

@entry_data
    This is a local storage to share the data between entry and exit handlers.
```

```
--:@ fprobe.rst.rej</ssh:rostedt@rostedt.org> All L1 (Diff)
```

Note that this may not be the actual entry address of the function but the address where the ftrace is instrumented.

@ret\_ip

This is the return address that the traced function will return to, somewhere in the caller. This can be used at both entry and exit.

@regs

This is the `pt\_regs` data structure at the entry and exit. Note that the instruction pointer of @regs may be different from the @entry\_ip in the entry\_handler. If you need traced instruction pointer, you need to use @entry\_ip. On the other hand, in the exit\_handler, the instruction pointer of @regs is set to the current return address.

@entry\_data

This is a local storage to share the data between entry and exit handlers. This storage is NULL by default. If the user specify `exit\_handler` field and `entry\_data\_size` field when registering the fprobe, the storage is allocated and passed to both `entry\_handler` and `exit\_handler`.

Share the callbacks with kprobes

```
--:@ fprobe.rst</ssh:rostedt@rostedt.org> 52% L109 (ReST)
```





This is the return address that the traced function will return to, somewhere in the caller. This can be used at both entry and exit.

-@regs

- This is the `pt\_regs` data structure at the entry and exit. Note that the instruction pointer of @regs may be different from the @entry\_ip in the entry\_handler. If you need traced instruction pointer, you need to use @entry\_ip. On the other hand, in the exit\_handler, the instruction pointer of @regs is set to the correct return address.

+@fregs

+ This is the `ftrace\_regs` data structure at the entry and exit. Note that the instruction pointer of @fregs may be incorrect in entry handler and exit handler, so you have to use @entry\_ip and @ret\_ip instead.

@entry\_data

This is a local storage to share the data between entry and exit handlers.



This is the return address that the traced function will return to, somewhere in the caller. This can be used at both entry and exit.

-@regs

- This is the `pt\_regs` data structure at the entry and exit. Note that  
- the instruction pointer of @regs may be different from the @entry\_ip  
- in the entry\_handler. If you need traced instruction pointer, you need  
- to use @entry\_ip. On the other hand, in the exit\_handler, the instruction  
- pointer of @regs is set to the correct return address.

@entry\_data

This is a local storage to share the data between entry and exit handlers.



This is the return address that the traced function will return to, somewhere in the caller. This can be used at both entry and exit.

-@regs

- This is the `pt\_regs` data structure at the entry and exit. Note that the instruction pointer of @regs may be different from the @entry\_ip in the entry\_handler. If you need traced instruction pointer, you need to use @entry\_ip. On the other hand, in the exit\_handler, the instruction pointer is @regs to the correct return address.

@entry

- @entry is a local storage to share the data between entry and exit handlers.

Ctrl+X r k



This is the return address that the traced function will return to, somewhere in the caller. This can be used at both entry and exit.

@regs

This is the `pt\_regs` data structure at the entry and exit. Note that the instruction pointer of @regs may be different from the @entry\_ip in the entry\_handler. If you need traced instruction pointer, you need to use @entry\_ip. On the other hand, in the exit\_handler, the instruction pointer of @regs is set to the correct return address.

@entry\_data

This is a local storage to share the data between entry and exit handlers.



This is the return address that the traced function will return to, somewhere in the caller. This can be used at both entry and exit.

@regs

This is the ``pt_regs`` data structure at the entry and exit. Note that the instruction pointer of @regs may be different from the @entry\_ip in the entry\_handler. If you need traced instruction pointer, you need to use @entry\_ip. On the other hand, in the exit\_handler, the instruction pointer of @regs is set to the correct return address.

@entry\_data

□ This is a local storage to share the data between entry and exit handlers.

1:\*\*@ a All L12 (Fundamental)

This is the return address that the traced function will return to, somewhere in the caller. This can be used at both entry and exit.

@regs

This is the ``pt_regs`` data structure at the entry and exit. Note that the instruction pointer of @regs may be different from the @entry\_ip in the entry\_handler. If you need traced instruction pointer, you need to use @entry\_ip. On the other hand, in the exit\_handler, the instruction pointer of @regs is set to the current return address.

@entry\_data

This is a local storage to share the data between entry and exit handlers.

1:\*\*@ b All L13 (Fundamental)

End of buffer



This is the return address that the traced function will return to, somewhere in the caller. This can be used at both entry and exit.

@regs

This is the ``pt_regs`` data structure at the entry and exit. Note that the instruction pointer of @regs may be different from the @entry\_ip in the entry\_handler. If you need traced instruction pointer, you need to use @entry\_ip. On the other hand, in the exit\_handler, the instruction pointer of @regs is set to the `current` return address.

@entry\_data

This is a local storage to share the data between entry and exit handlers.

A: 1:\*\*@ b All L9 (Fundamental)

This is the return address that the traced function will return to, somewhere in the caller. This can be used at both entry and exit.

@regs

This is the ``pt_regs`` data structure at the entry and exit. Note that the instruction pointer of @regs may be different from the @entry\_ip in the entry\_handler. If you need traced instruction pointer, you need to use @entry\_ip. On the other hand, in the exit\_handler, the instruction pointer of @regs is set to the `current` return address.

@entry\_data

This is a local storage to share the data between entry and exit handlers.

B: 1:\*\*@ a All L12 (Fundamental)

M-x ediff-buffers



```
--- Documentation/trace/fprobe.rst
+++ Documentation/trace/fprobe.rst
@@ -112,12 +112,10 @@ If the entry callback function returns !0, the corresponding exit callback will
    This is the return address that the traced function will return to,
    somewhere in the caller. This can be used at both entry and exit.

-@regs
- This is the `pt_regs` data structure at the entry and exit. Note that
- the instruction pointer of @regs may be different from the @entry_ip
- in the entry_handler. If you need traced instruction pointer, you need
- to use @entry_ip. On the other hand, in the exit_handler, the instruction
- pointer of @regs is set to the current return address.
+@fregs
+ This is the `ftrace_regs` data structure at the entry and exit. Note that
+ the instruction pointer of @fregs may be incorrect in entry handler and
+ exit handler, so you have to use @entry_ip and @ret_ip instead.
[]
@entry_data
    This is a local storage to share the data between entry and exit handlers.
```

```
--:@ fprobe.rst.rej</ssh:rostedt@rostedt.org:> All L17 (Diff)
```

Note that this may not be the actual entry address of the function but the address where the ftrace is instrumented.

```
@ret_ip
```

This is the return address that the traced function will return to, somewhere in the caller. This can be used at both entry and exit.

```
+@fregs
```

```
+ This is the `ftrace_regs` data structure at the entry and exit. Note that
+ the instruction pointer of @fregs may be incorrect in entry handler and
+ exit handler, so you have to use @entry_ip and @ret_ip instead.
```

```
@regs
```

This is the `pt\_regs` data structure at the entry and exit. Note that the instruction pointer of @regs may be different from the @entry\_ip in the entry\_handler. If you need traced instruction pointer, you need to use @entry\_ip. On the other hand, in the exit handler, the instruction pointer of @regs is set to the current return address.

```
@entry_data
```

This is a local storage to share the data between entry and exit handlers. This storage is NULL by default. If the user specify `exit\_handler` field

```
--:**@ fprobe.rst</ssh:rostedt@rostedt.org:> 50% L18 (ReST)
```

Auto-saving...done



```

--- Documentation/trace/fprobe.rst
+++ Documentation/trace/fprobe.rst
@@ -112,12 +112,10 @@ If the entry callback function returns !0, the corresponding exit callback will
    This is the return address that the traced function will return to,
    somewhere in the caller. This can be used at both entry and exit.

-@regs
- This is the `pt_regs` data structure at the entry and exit. Note that
- the instruction pointer of @regs may be different from the @entry_ip
- in the entry_handler. If you need traced instruction pointer, you need
- to use @entry_ip. On the other hand, in the exit_handler, the instruction
- pointer of @regs is set to the current return address.
+@fregs
+ This is the `ftrace_regs` data structure at the entry and exit. Note that
+ the instruction pointer of @fregs may be incorrect in entry handler and
+ exit handler, so you have to use @entry_ip and @ret_ip instead.
[]
@entry_data
    This is a local storage to share the data between entry and exit handlers.

```

```

--:@ fprobe.rst.rej</ssh:rostedt@rostedt.org> All L17 (Diff)

```

Note that this may not be the actual entry address of the function but the address where the ftrace is instrumented.

```

@ret_ip
    This is the return address that the traced function will return to,
    somewhere in the caller. This can be used at both entry and exit.

```

```

+@fregs
+ This is the `ftrace_regs` data structure at the entry and exit. Note that
+ the instruction pointer of @fregs may be incorrect in entry handler and
+ exit handler, so you have to use @entry_ip and @ret_ip instead.
+
@regs

```

This is the `pt\_regs` data structure at the entry and exit. Note that the instruction pointer of @regs may be different from the @entry\_ip in the entry\_handler. If you need traced instruction pointer, you need to use @entry\_ip. On the other hand, in the exit handler, the instruction pointer of @regs is set to the current return address.

```

@entry_data
    This is a local storage to share the data between entry and exit handlers.
    This storage is NULL by default. If the user specify `exit_handler` field

```

```

-:***@ fprobe.rst</ssh:rostedt@rostedt.org> 50% L118 (ReSt)

```

Auto-saving...done





```
--- Documentation/trace/fprobe.rst
+++ Documentation/trace/fprobe.rst
@@ -112,12 +112,10 @@ If the entry callback function returns !0, the corresponding exit callback will
    This is the return address that the traced function will return to,
    somewhere in the caller. This can be used at both entry and exit.

-@regs
- This is the `pt_regs` data structure at the entry and exit. Note that
- the instruction pointer of @regs may be different from the @entry_ip
- in the entry_handler. If you need traced instruction pointer, you need
- to use @entry_ip. On the other hand, in the exit_handler, the instruction
- pointer of @regs is set to the current return address.
+@fregs
+ This is the `ftrace_regs` data structure at the entry and exit. Note that
+ the instruction pointer of @fregs may be incorrect in entry handler and
+ exit handler, so you have to use @entry_ip and @ret_ip instead.
[]
@entry_data
    This is a local storage to share the data between entry and exit handlers.
```

```
--:@ fprobe.rst.rej</ssh:rostedt@rostedt.org> All L17 (Diff)
```

Note that this may not be the actual entry address of the function but the address where the ftrace is instrumented.

```
@ret_ip
    This is the return address that the traced function will return to,
    somewhere in the caller. This can be used at both entry and exit.
```

```
@fregs
    This is the `ftrace_regs` data structure at the entry and exit. Note that
    the instruction pointer of @fregs may be incorrect in entry handler and
    exit handler, so you have to use @entry_ip and @ret_ip instead.
```

```
@regs
    This is the `pt_regs` data structure at the entry and exit. Note that
    the instruction pointer of @regs may be different from the @entry_ip
    in the entry_handler. If you need traced instruction pointer, you need
    to use @entry_ip. On the other hand, in the exit handler, the instruction
    pointer of @regs is set to the current return address.
```

```
@entry_data
    This is a local storage to share the data between entry and exit handlers.
    This storage is NULL by default. If the user specify `exit_handler` field
```

```
--:**@ fprobe.rst</ssh:rostedt@rostedt.org> 50% L125 (ReST)
```



```
--- Documentation/trace/fprobe.rst
+++ Documentation/trace/fprobe.rst
@@ -112,12 +112,10 @@ If the entry callback function returns !0, the corresponding exit callback will
    This is the return address that the traced function will return to,
    somewhere in the caller. This can be used at both entry and exit.

-@regs
- This is the `pt_regs` data structure at the entry and exit. Note that
- the instruction pointer of @regs may be different from the @entry_ip
- in the entry_handler. If you need traced instruction pointer, you need
- to use @entry_ip. On the other hand, in the exit_handler, the instruction
- pointer of @regs is set to the current return address.
+@fregs
+ This is the `ftrace_regs` data structure at the entry and exit. Note that
+ the instruction pointer of @fregs may be incorrect in entry handler and
+ exit handler, so you have to use @entry_ip and @ret_ip instead.
[]
@entry_data
    This is a local storage to share the data between entry and exit handlers.
```

```
--:@ fprobe.rst.rej</ssh:rostedt@rostedt.org> All L17 (Diff)
```

Note that this may not be the actual entry address of the function but the address where the ftrace is instrumented.

```
@ret_ip
    This is the return address that the traced function will return to,
    somewhere in the caller. This can be used at both entry and exit.
```

```
@fregs
    This is the `ftrace_regs` data structure at the entry and exit. Note that
    the instruction pointer of @fregs may be incorrect in entry handler and
    exit handler, so you have to use @entry_ip and @ret_ip instead.
```

```
@entry_data
    This is a local storage to share the data between entry and exit handlers.
    This storage is NULL by default. If the user specify `exit_handler` field
    and `entry_data_size` field when registering the fprobe, the storage is
    allocated and passed to both `entry_handler` and `exit_handler`.
```

Share the callbacks with kprobes

```
--:**@ fprobe.rst</ssh:rostedt@rostedt.org> 53% L119 (ReST)
```

# Check the changes

```
>$ git diff
```

```
diff --git a/Documentation/trace/fprobe.rst b/Documentation/trace/fprobe.rst
```

```
index 196f52386aaa..64ef522f7a64 100644
```

```
--- a/Documentation/trace/fprobe.rst
```

```
+++ b/Documentation/trace/fprobe.rst
```

```
@@ -91,9 +91,9 @@ The prototype of the entry/exit callback function are as follows:
```

```
.. code-block:: c
```

```
- int entry_callback(struct fprobe *fp, unsigned long entry_ip, unsigned long ret_ip, struct pt_regs *regs, void *entry_data);  
+ int entry_callback(struct fprobe *fp, unsigned long entry_ip, unsigned long ret_ip, struct ftrace_regs *fregs, void *entry_data);  
  
- void exit_callback(struct fprobe *fp, unsigned long entry_ip, unsigned long ret_ip, struct pt_regs *regs, void *entry_data);  
+ void exit_callback(struct fprobe *fp, unsigned long entry_ip, unsigned long ret_ip, struct ftrace_regs *fregs, void *entry_data);
```

Note that the @entry\_ip is saved at function entry and passed to exit handler.

If the entry callback function returns !0, the corresponding exit callback will be cancelled.

```
@@ -112,12 +112,10 @@ If the entry callback function returns !0, the corresponding exit callback will
```

```
This is the return address that the traced function will return to,  
somewhere in the caller. This can be used at both entry and exit.
```

```
-@regs
```

```
- This is the `pt_regs` data structure at the entry and exit. Note that  
- the instruction pointer of @regs may be different from the @entry_ip  
- in the entry_handler. If you need traced instruction pointer, you need  
- to use @entry_ip. On the other hand, in the exit_handler, the instruction  
- pointer of @regs is set to the current return address.
```

```
+@fregs
```

```
+ This is the `ftrace_regs` data structure at the entry and exit. Note that  
+ the instruction pointer of @fregs may be incorrect in entry handler and  
+ exit handler, so you have to use @entry_ip and @ret_ip instead.
```

```
@entry_data
```

```
This is a local storage to share the data between entry and exit handlers.
```

# Using quilt to fix git am errors

```
>$ quilt files  
Documentation/trace/fprobe.rst
```

# Using quilt to fix git am errors

```
>$ quilt files  
Documentation/trace/fprobe.rst  
  
>$ git add `quilt files`
```

# Using quilt to fix git am errors

```
>$ quilt files
Documentation/trace/fprobe.rst

>$ git add `quilt files`

>$ git am --continue
Applying: Documentations: probes: Update fprobe document to use ftrace_regs
Applying: Documentation: tracing: Add a note about argument and retval access
```

# More on quilt

- git is great!

# More on quilt

- git is great!
- I make a lot of branches



# More on quilt

- git is great!
- I make a lot of branches
- But too many branches

# More on quilt

- git is great!
- I make a lot of branches
- But too many branches

```
>$ git branch | wc -l  
688
```

# git branch hoarder support group!



“Hello, my name is Steven, and I’m a git branch hoarder!”

# More on quilt

- git is great!
- I make a lot of branches
- But too many branches
  - I work on lots of different projects
  - I'll save every version in its own branch

# More on quilt

- git is great!
- I make a lot of branches
- But too many branches
  - I work on lots of different projects
  - I'll save every version in its own branch
- Hard to find what you looked for

# More on quilt

- git is great!
- I make a lot of branches
- But too many branches
  - I work on lots of different projects
  - I'll save every version in its own branch
- Hard to find what you looked for
- Can at least see what I worked on last!

# git-ls

<https://rostedt.org/code/git-ls>

```
>$ git-ls | tail -20
```

```
9889f929b2eb 2023-07-17 trace/ftrace/mmap-ringbuffer-v3 try moving head page?
6e1eed2cb328 2023-07-19 trace/ftrace/eventfs-v10-works-with-files tracefs: Add show_events_dentries
4c414abcb5d9 2023-07-20 trace/ftrace/eventfs-v11-remove-eventfs_file eventfs: Remove eventfs_file and just use eventfs_inode
f345260dd301 2023-07-20 trace/ftrace/eventfs-v12-event-inode-almost tracefs: Add show_events_dentries
5a984d1d7aed 2023-07-20 trace/ftrace/eventfs-v13 tracefs: Add show_events_dentries
800c7938a9c9 2023-07-21 trace/ftrace/eventfs-v14 tracefs: Add show_events_dentries
3179de292e31 2023-07-24 trace/ftrace/eventfs-v15-works-without-eventfs-file tracefs: Add show_events_dentries
a6357b158413 2023-07-24 trace/ftrace/eventfs-v16 test: ftrace: Fix kprobe test for eventfs
62932e1fabdd 2023-07-28 trace/ftrace/eventfs-v17 test: ftrace: Fix kprobe test for eventfs
cd9a3751ae34 2023-07-29 cpumask-filters tracing/filters: Document cpumask filtering
e85b3b6c61dd 2023-07-29 trace/ftrace/mmap-ringbuffer-v4 tracing: Allow user-space mapping of the ring-buffer
11cc8b595f4d 2023-07-30 trace/ftrace/mmap-ringbuffer tracing: Allow user-space mapping of the ring-buffer
1bde7feb665d 2023-07-31 trace/ftrace/eventfs-v18 tracefs: Add show_events_dentries
0348f7295322 2023-07-31 trace/ftrace/eventfs eventfs: Remove eventfs_file and just use eventfs_inode
ef229c4c0cfb 2023-08-22 fprobe-btf Documentation: tracing: Update fprobe event example with BTF field
18940dd831de 2023-08-22 trace/tools/core rta: Fix uninitialized variable found
58df6975ff88 2023-09-14 trace/show_events_dentries tracing/selftests: Update kprobe args char/string to match new
functions
63362217fbaa 2023-09-14 trace/deadline-server sched/fair: Fair server interface
799aecf7fcb3 2023-09-20 trace/ftrace/core squash this
e9c84be13c59 2023-09-23 trace/ftrace/urgent Documentation: tracing: Add a note about argument and retval
access
```

## More on quilt

- For small changes and crazy POC work I use quilt



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```
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```
>$ grep -l early_printk patches/*.patch  
patches/early-printk-sync-v3.11.patch  
patches/early-printk-sync-v3.12.patch  
patches/early-printk-sync-v4.1.patch  
patches/fix-4.2-rc1.patch  
patches/nmi-idt-with-nmi.patch  
patches/peterz-early-printk.patch
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>$ git diff > /tmp/my-new-change.patch
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>$ quilt import /tmp/my-new-change.patch
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```
>$ git diff > /tmp/my-new-change.patch  
>$ quilt import /tmp/my-new-change.patch  
>$ patch -R < /tmp/my-new-change.patch
```

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- tglx told me he uses git to maintain his `./patches` directory!

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  - see `tools/testing/ktest/` in the source tree
- It uses a config to tell it what to do
  - Sample configs are in the `examples` directory
- I have a config file for each of my test machines (VMs and bare metal)
- I use `libvirt` for my VMs
  - Allows me to use `virsh` commands

```
# In another window: sudo virsh console devel-vm |
# tee /tmp/devel-vm | nc -kl localhost 4444
CONSOLE = nc localhost 4444

OUTPUT_DIRS = /work/build/nobackup
REBOOT_TYPE := grub2

INCLUDE include/default.conf
INCLUDE include/add-configs.conf
#INCLUDE include/bisect.conf

RUN_TYPE := boot
BUILD_NOCLEAN = 1

TEST_START IF ${RUN_TYPE} == boot && NOT DEFINED RUN_TEST
POST_TEST = echo -n "Build version: "; cat ${OUTPUT_DIR}/.version
TEST_TYPE = boot
#BUILD_TYPE = nobuild
#TEST_TYPE = build
BUILD_TYPE = oldconfig
#TEST_TYPE = test
#TEST_TYPE = install
#BUILD_TYPE = useconfig:/tmp/config-bad

DEFAULTS OVERRIDE IF ${USE_TEST_DIR}
BUILD_DIR = ${THIS_DIR}/linux-test.git
OUTPUT_DIR = ${THIS_DIR}/nobackup/${MACHINE}/test

DEFAULTS OVERRIDE
#MIN_CONFIG =
POST_INSTALL =
```

# Running ktest.pl

```
>$ ./ktest.pl devel-vm.conf

[..]

Devel-vm login: Successful boot found: break after 1 second
kill child process 1829160
wait for child process 1829160 to exit
closing!

Build time:  1 minute 45 seconds
Install time: 6 seconds
Reboot time: 25 seconds

*****
*****
KTEST RESULT: TEST 1 SUCCESS!!!!  **
*****
*****
echo -n "Build version: "; cat /work/build/nobackup/devel-vm/.version ... [0 seconds] SUCCESS

    1 of 1 tests were successful

See /work/build/nobackup/devel-vm/devel-vm.log for the record of results.
```

# Testing

- I test with two VMs
  - One 64 bit and one 32 bit

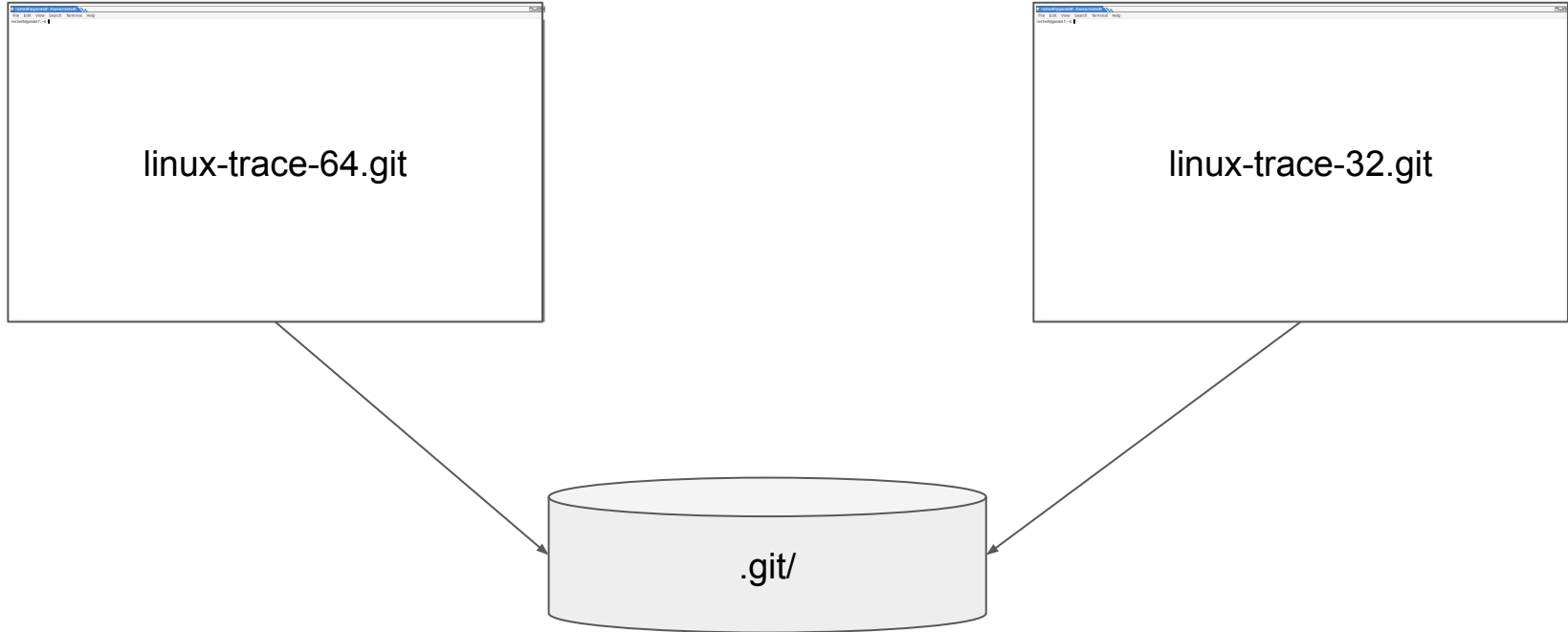
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- I test with two VMs
  - One 64 bit and one 32 bit
- I use **git worktree**
  - One for testing 64 bit builds
  - One for testing 32 bit builds
- I have two ktest configs, one for each VM
  - I run them in parallel
  - 32 bit has 10 tests
  - 64 bit has 35 tests

# git worktrees



# Tests are on github



<https://github.com/rostedt/ftrace-ktests>

- ktest.pl config files for both 64 and 32 bit machines

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- Tests on the machines that are run to test ftrace



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- Tests on the machines that are run to test ftrace

I do need to update them 😊

# When the tests are finished

- The ktest configs are set to tag the commits
  - [tracetest-tested-20230922-2100](#) for 64 bit
  - [tracetest-32-tested-20230922-1824](#) for 32 bit

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- Do a git pull from the server to the workstation
- Send out the [for-next](#) or [for-linus](#) patch series
  - This triggers the patchwork updates (state goes to “[Queued](#)”)
- I run my scripts: [make-next](#) or [make-linus](#)
  - Creates a quilt [series](#) file of all the commits to send out
  - And a [prog](#) file, I can update to include in my cover letter

# Sending the patches to the lists

For fixes going to Linus:

```
>$ quilt mail --send --prefix 'for-linus][PATCH' --sender 'rostedt@goodmis.org' \  
--from 'Steven Rostedt <rostedt@goodmis.org>' --to 'linux-kernel@vger.kernel.org' \  
--cc 'Masami Hiramatsu <mhiramat@kernel.org>, Mark Rutland <mark.rutland@arm.com>, Andrew Morton  
<akpm@linux-foundation.org>' --bcc 'rostedt@goodmis.org'
```

For going to linux-next:

```
>$ quilt mail --send --prefix 'for-next][PATCH' --sender 'rostedt@goodmis.org' \  
--from 'Steven Rostedt <rostedt@goodmis.org>' --to 'linux-kernel@vger.kernel.org' \  
--cc 'Masami Hiramatsu <mhiramat@kernel.org>, Mark Rutland <mark.rutland@arm.com>, Andrew Morton  
<akpm@linux-foundation.org>' --bcc 'rostedt@goodmis.org'
```

Questions?

