

中期进度汇报

COD19GRP4

概览

▶ 成果 (DEMO)

- ▶ 把MAC/IP写死，可以4个网口连接相互ping通
- ▶ (没有连接ARP表和路由表)

▶ 简约的ARP表

- ▶ 线性算法

▶ 高效的路由表

- ▶ 32拍Trie树(第五周)
- ▶ 1/2/4/8/16/32步长可参数化多路Trie树(第7周)

```
64 bytes from 10.0.4.5: icmp_seq=5 ttl=63 time=1057.393 ms
64 bytes from 10.0.4.5: icmp_seq=6 ttl=63 time=1001.291 ms
64 bytes from 10.0.4.5: icmp_seq=7 ttl=63 time=1248.631 ms
64 bytes from 10.0.4.5: icmp_seq=8 ttl=63 time=1008.399 ms
64 bytes from 10.0.4.5: icmp_seq=9 ttl=63 time=1000.940 ms
64 bytes from 10.0.4.5: icmp_seq=10 ttl=63 time=1003.808 ms
64 bytes from 10.0.4.5: icmp_seq=11 ttl=63 time=1022.109 ms
64 bytes from 10.0.4.5: icmp_seq=12 ttl=63 time=1278.183 ms
64 bytes from 10.0.4.5: icmp_seq=13 ttl=63 time=1727.503 ms
64 bytes from 10.0.4.5: icmp_seq=14 ttl=63 time=1980.193 ms
```

概览

▶ 智能的Testbench

- ▶ Python自动化生成ARP/路由/以太网帧Testcases
- ▶ Vivado读/写文件 可以显示每个操作预期结果/实际结果/对错

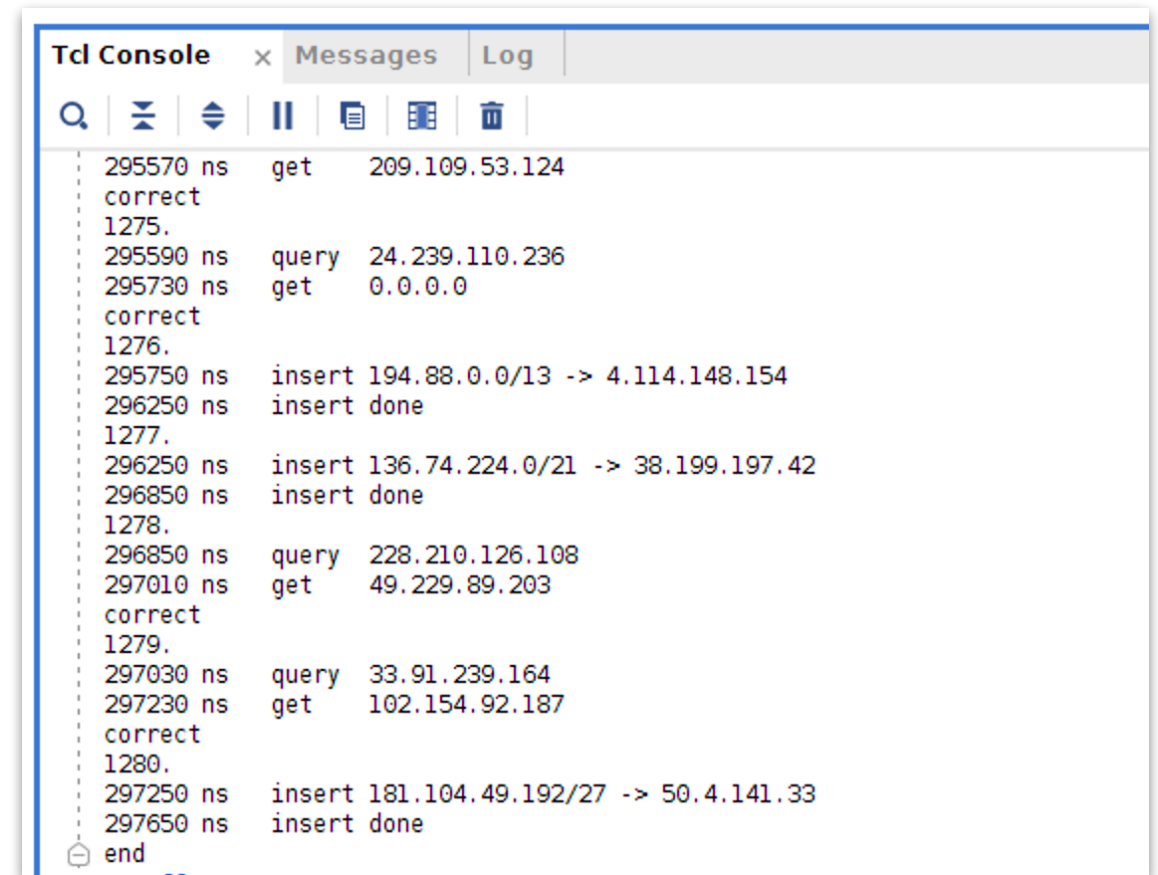
▶ 优美的Debug方式 (DEMO)

- ▶ LED/7端数码管显示自动机状态
- ▶ 通过硬件按钮控制转发逻辑(如丢包)
- ▶ 内嵌逻辑分析仪接到队列RX和TX

▶ 规范的Git版本控制

▶ (不) 勤奋的组员

- ▶ 还把ALU/SRAM/UART小作业写了



The screenshot shows a Tcl Console window with a tabbed interface. The 'Messages' tab is active, displaying a log of network simulation events. The log includes timestamps, command types (ns, get, query, insert), and IP addresses. The events are as follows:

Timestamp	Command	Details
295570 ns	get	209.109.53.124
	correct	1275.
295590 ns	query	24.239.110.236
295730 ns	get	0.0.0.0
	correct	1276.
295750 ns	insert	194.88.0.0/13 -> 4.114.148.154
296250 ns	insert done	1277.
296250 ns	insert	136.74.224.0/21 -> 38.199.197.42
296850 ns	insert done	1278.
296850 ns	query	228.210.126.108
297010 ns	get	49.229.89.203
	correct	1279.
297030 ns	query	33.91.239.164
297230 ns	get	102.154.92.187
	correct	1280.
297250 ns	insert	181.104.49.192/27 -> 50.4.141.33
297650 ns	insert done	
	end	

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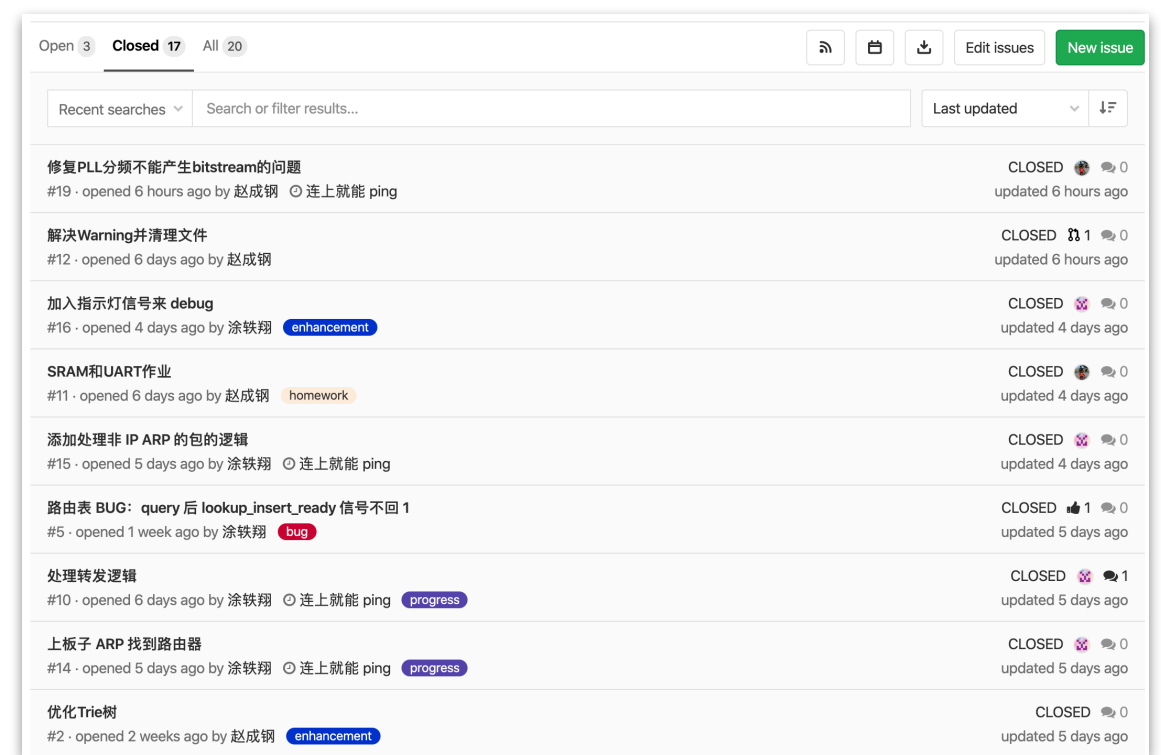
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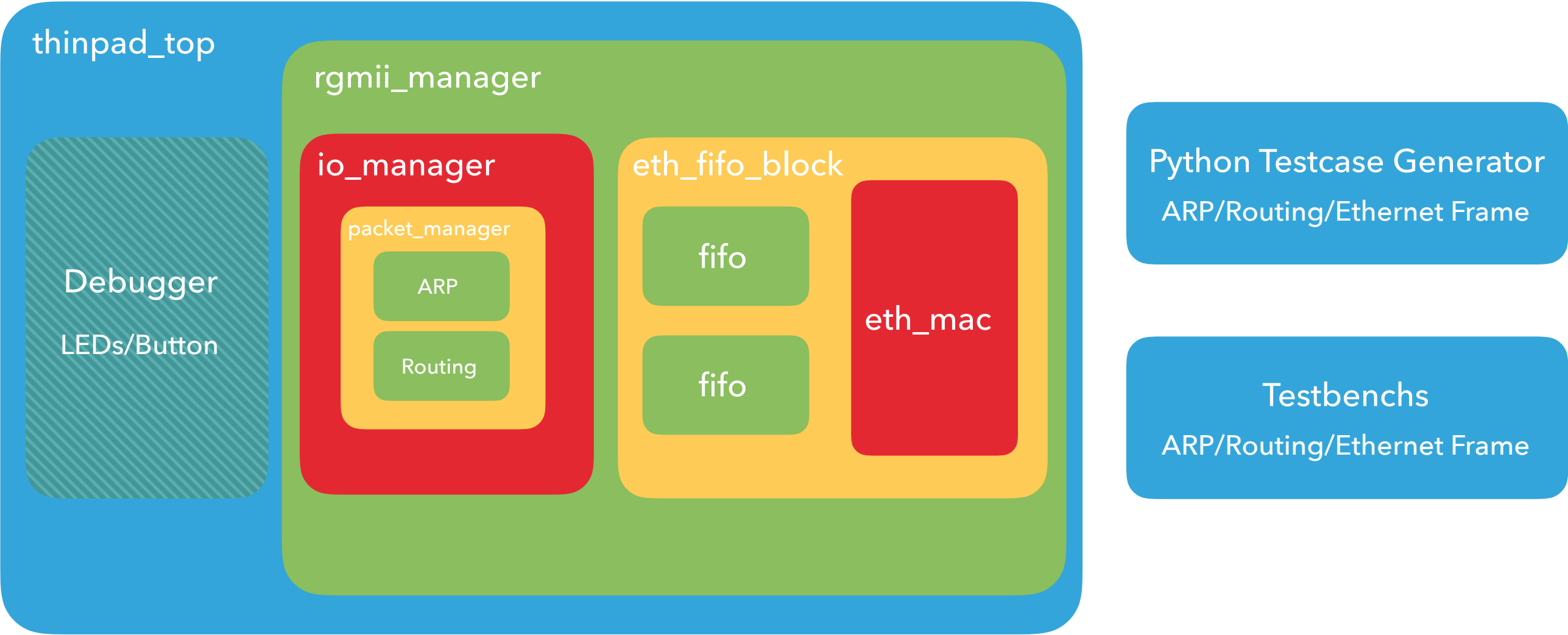
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结构



后面打算

- ▶ 把ARP表和路由彻底连上
- ▶ 更快的ARP算法
- ▶ 改成流水
- ▶ 造CPU

DEMO

谢谢