

$0 \times 0'3f^8$ 虚拟用户栈
 $\rightarrow 0 \times 0^287fb \dots$ 物理空间

2. 
 The diagram shows a horizontal bar representing memory. It is divided into three sections. The first section on the left is labeled 'VAPP' and has '0x000...' written below it. The middle section is empty. The third section on the right is labeled 'V-stack' and '栈' (stack) below it, with '0x400...' written below it. A red diagonal line runs from the bottom left towards the bottom right, passing under the 'V-stack' section. The text 'user-start' is written at the bottom left, and 'USER-END' is written at the bottom right.

全部地址

user space

$0 \times 40 \dots$

直接映射
 $PA + OFFSET = VA$

VM-START
 $0 \times fffff0$

VM-END
 $0 \times f'0^8$

1M GB

text	rodata	data	vapp	bss
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128MB

用户态程序

$fffffe08 + 20^5$

sret 会将 $PC = \text{sepc}$
 $PC = 0x00 \dots$ 去用 跑 wapp-
 traps 的时候

分配虚拟假表分配物理, 将这段作用户的数据区。