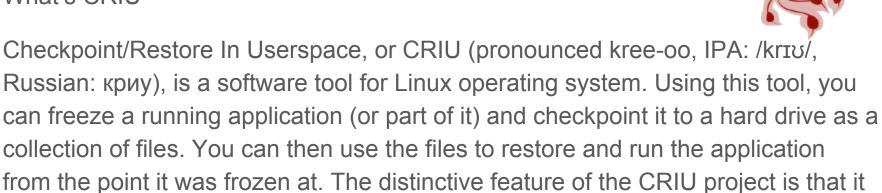
CRIU Introduction

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What's CRIU



https://criu.org/Main_Page

is mainly implemented in user space.



CRIU usage scenarios

- Live migration
- Load balance
- High availability
- ...

What cannot be checkpointed

- Dumped with special option
 - External resources
 - File locks
 - Invisible files
- Cannot be dumped (yet)
 - Devices
 - Tasks with debugger attached
 - Task from a different user (for non-root)
 - Task running in compat mode (x86-64)
 - Sockets other than TCP, UDP, UNIX, packet and netlink
 - Packetized pipes
 - Cork-ed UDP sockets
 - Files sent over unix sockets
 - Half-opened UNIX connections
 - SysVIPC memory segment w/o IPC namespace

CRIU support in major distro

- Fedora/Debian/Ubuntu/Gentoo/OpenSUSE/Arch/...
- RHEL 7.2 Tech Preview

CRIU Architecture support

- x86 64, Intel/AMD
- PPC64LE, IBM Power 8
- ARM, AARCH64

https://criu.org/Comparison_to_other_CR_projects

CRIU x Container

- Application use various network, filesystem, cgroups, etc.
- Baremetal OS env is too complicated
- Containerized application are isolated with the rest of OS/Applications
- Contianerized applications need similar KVM live migration technolgy

CRIU Demo

- Checkpoint/Restore application on Baremetal OS
- Checkpoint/Restore application with cgroup
- Checkpoint/Restore LXC container
- Checkpoint/Restore Docker/runc container

Containerized App support status

- Top 10 Applications
 - dnsmasq
 - httpd
 - vsftpd
 - sendmail
 - tomcat
 - o mongo
 - mysql
 - mariadb
 - postgres
 - oracle

Container support status

- LXC
- Docker
- runc

Enterprise Linux support

- RHEL
- SUSE
- Ubuntu

Q & A