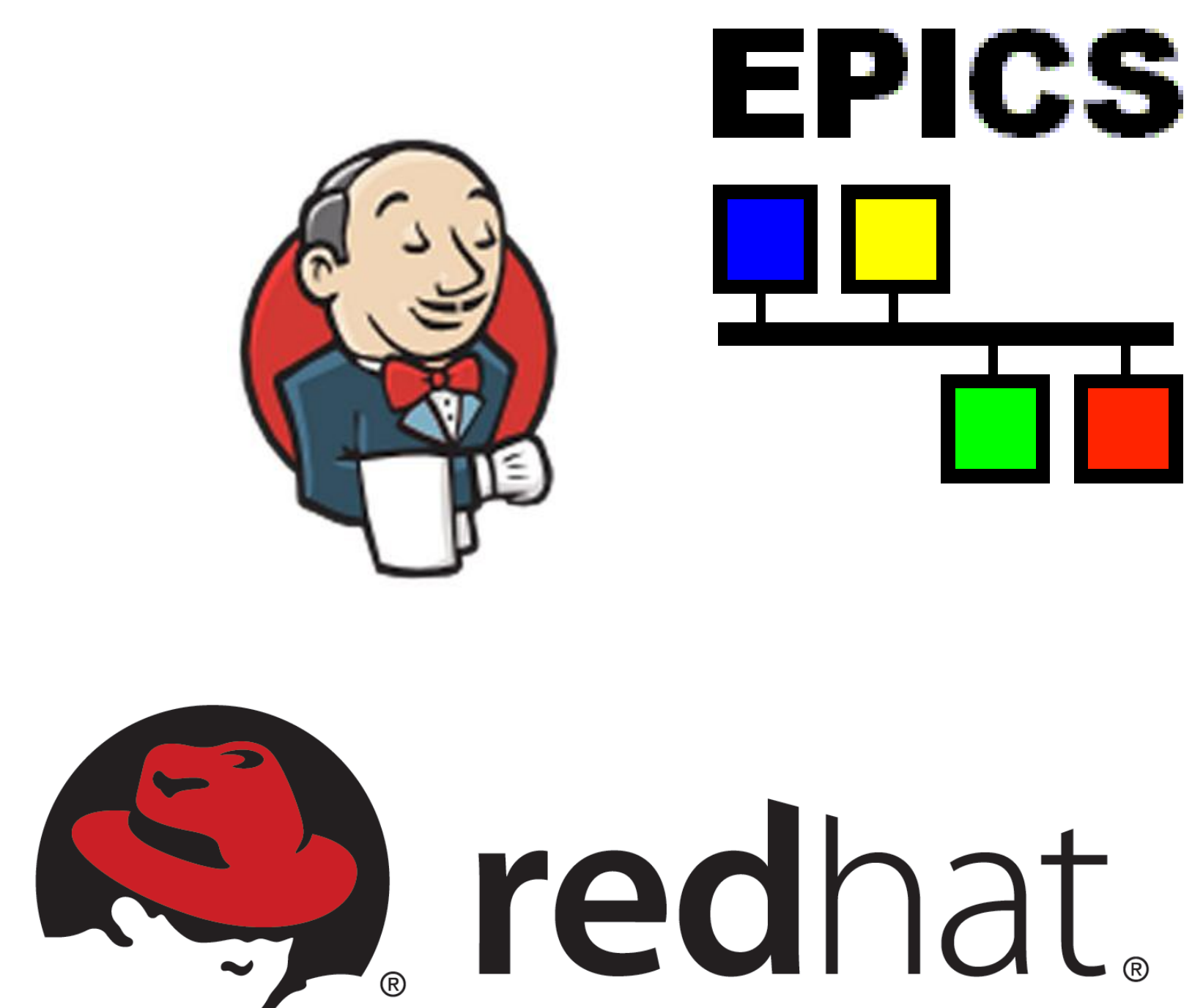


## OVERVIEW

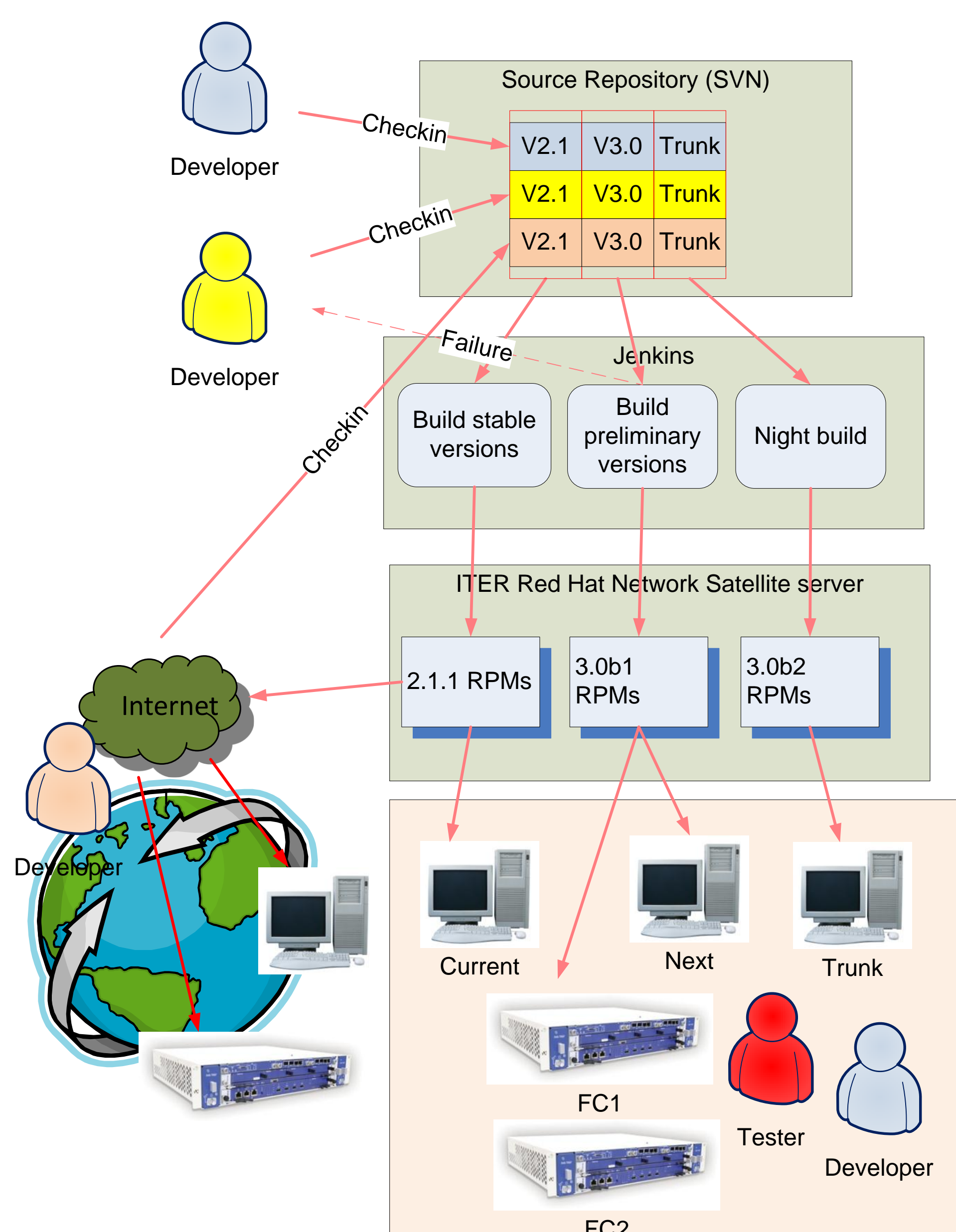
- ✓ Software build procedure is fully automated to ...
  - ✓ ... avoid possibility of human error
  - ✓ ... ensure reproducibility of the build at a later time (e.g., for patches and updates)
  - ✓ ... improved efficiency of development
  - ✓ ... enables continuous integration (i.e., rebuilding and running unit tests upon every change of code, and on a nightly basis)
- ✓ By **packaging** we mean preparing an installable package. A package contains:
  - ✓ files needed at run-time
  - ✓ dependency information, i.e., what other packages need to be installed
  - ✓ actions to take before and after installing, uninstalling or updating a package



## WE PROVIDE PACKAGING FOR...

- ✓ In case of ITER CODAC, Red Hat Enterprise Linux was chosen as the operating system
  - We support RPM packages.
  - ✓ Portable – but not actively supported – to other RPM-based Linux distributions (e.g., *CentOS* and *Scientific Linux*)
- ✓ Packaging of EPICS IOCs:
  - ✓ The IOC application (binary).
  - ✓ Database files.
  - ✓ Startup configuration (**st.cmd**).
  - ✓ **init.d** startup script.
  - ✓ IOC not running as **root** user (for improved security), so permissions are also set-up accordingly.
- ✓ Control System Studio
  - ✓ BOY operator interface screens.
  - ✓ BEAST alarm server configuration files (and automatic installation upon install of RPM package).
  - ✓ BEAUTY archive server configuration files (and automatic installation upon install of RPM package).
- ✓ Linux kernel modules
  - ✓ Compilation and packaging for all supported Linux kernel (currently real-time and non-real-time kernels).

## WORKFLOW



## EXAMPLE

Input (a snippet from Maven pom.xml):

```
<package name="MCioc">
  <include name="MC-ICHCore" type="ioc"/>
  <include type="boy" file="*" />
  <include type="databrowser" file="power.plt" />
</package>
```

Intermediate output (a SPEC file for building a RPM package):

```
# Spec file for package rf-ich-sample-MCioc
# Generated by the codac-packager Maven plugin.
# Date: Fri Sep 30 13:32:55 CEST 2011 ...

%define unit_version_full ${codac_version_full}.v1.0a1

Name:     ${codac_rpm_prefix}-rf-ich-sample-MCioc
Version:  ${codac_version_full}.v1.0a1
...

Requires: %get_current codac-core-3.0-epics-autosave

%description
Input (a snippet from Maven pom.xml):

%install
sed -r -i '#epicsEnvSet\("TOP"\s*\,\s*".*?"\)#epicsEnvSet\("TOP","/opt/codac-3.0/apps/rf-ich-sample"\)#g' ${buildroot}/opt/codac-3.0/apps/rf-ich-sample/iocBoot/iocMC-ICHCore/envPaths
...

install -d ${buildroot}/etc/opt/codac-3.0/alt.d/
echo --slave \("${_bindir}/MC-ICHCore-ioc" \ "${codac-sudo-MC-ICHCore-ioc" \ "/opt/codac-3.0/bin/services/sudo-service" >> "${buildroot}/etc/opt/codac-3.0/alt.d/rf-ich-sample-MCioc"
echo --slave \("${_initrddir}/MC-ICHCore-ioc" \ "${codac-srv-MC-ICHCore-ioc" \ "/opt/codac-3.0/bin/services/MC-ICHCore-ioc" >> "${buildroot}/etc/opt/co

%pre
...
```