

Remote Services

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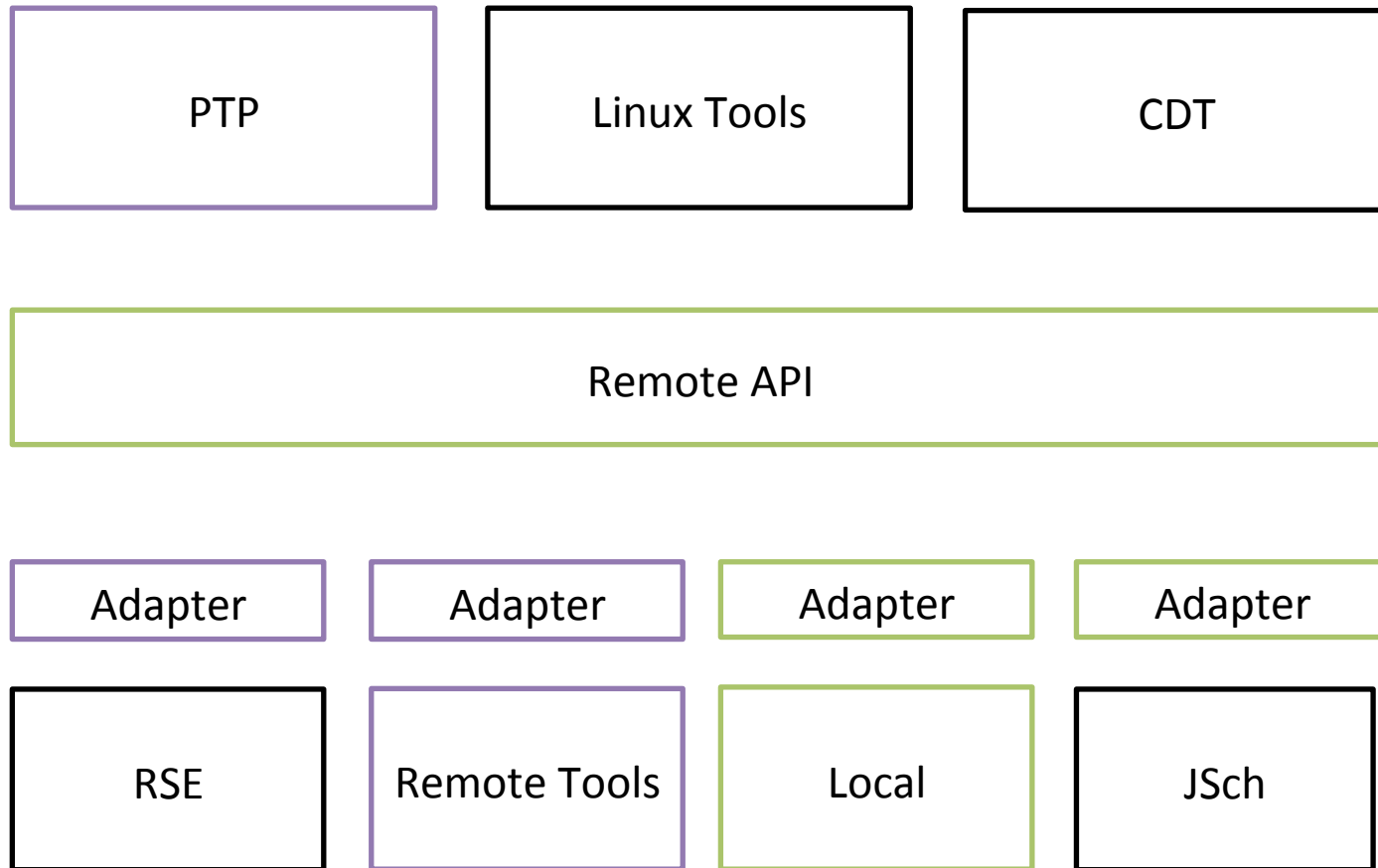
Why

- PTP does lots of things remotely
 - Launching and debugging
 - Monitoring
 - Remote synchronized projects
 - RDT projects
- Need easy way to run commands and manipulate files remotely
- Looked at other remote frameworks
 - RSE is UI centric and does not provide simple API
 - Jsch is too low level
 - TCF requires agent on remote end
 - Needed to support ssh to work with secure HPC systems

Remote Support

- Used to provide remote services throughout PTP
- Light weight, connection oriented
- Abstraction of remote concepts
 - IRemoteConnection
 - IRemoteResource
 - IRemoteProcess
 - IFileStore
- Allows different service providers to be used
 - Important to allow other remote functionality to be used seamlessly with PTP
- Adoption
 - Was not being used by other projects because of “fear of dependencies”
 - Was hindering remote enablement of Linux Tools which would benefit PTP

Remote Services Architecture



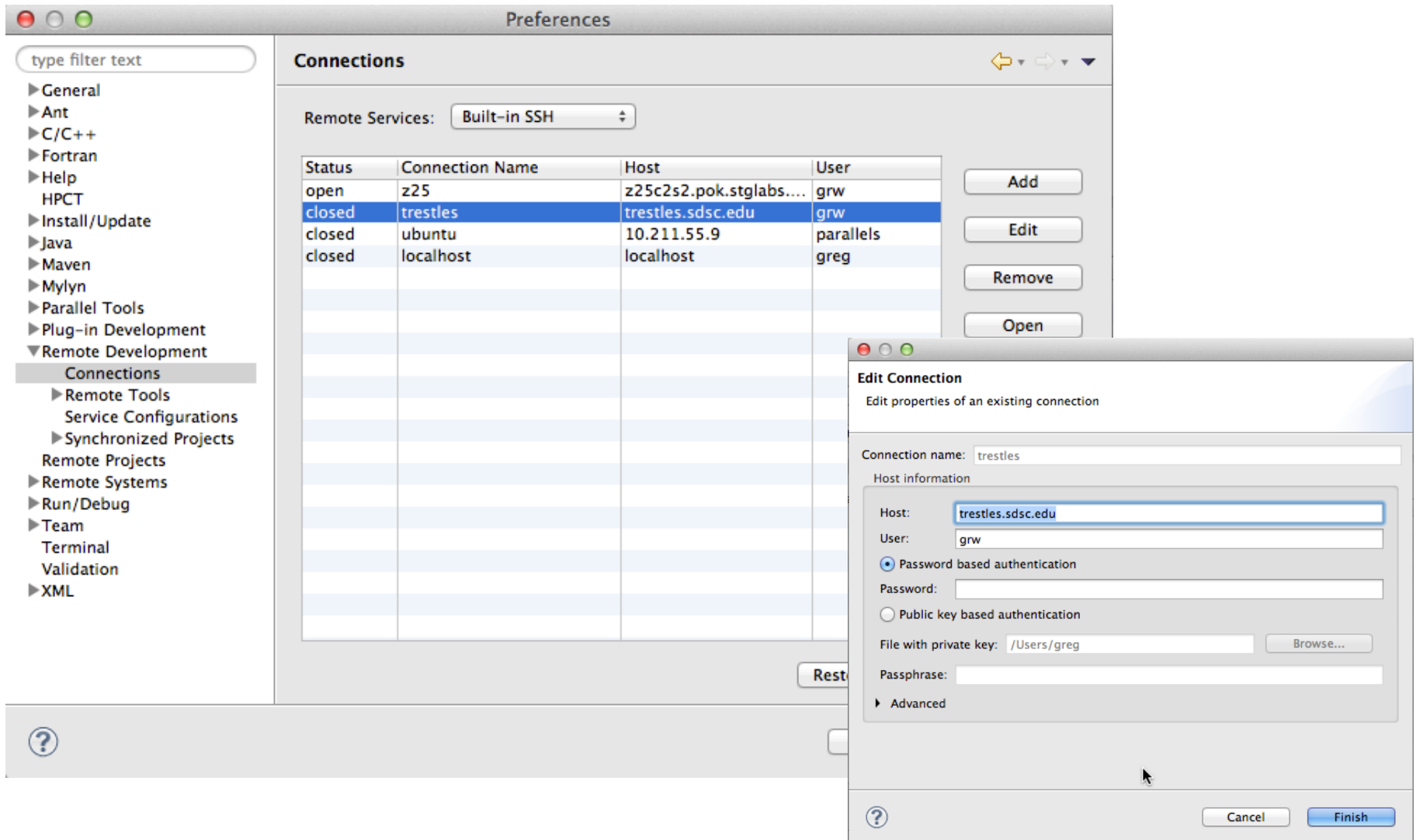
Plugins

- Remote API
 - org.eclipse.remote.core
 - org.eclipse.remote.ui
 - No PTP dependencies
- Adapters
 - org.eclipse.ptp.remote.*
 - org.eclipse.remote.jsch.*
- Remote Implementations
 - com.jcraft.jsch
 - org.eclipse.rse.*
 - org.eclipse.ptp.remotetools.*

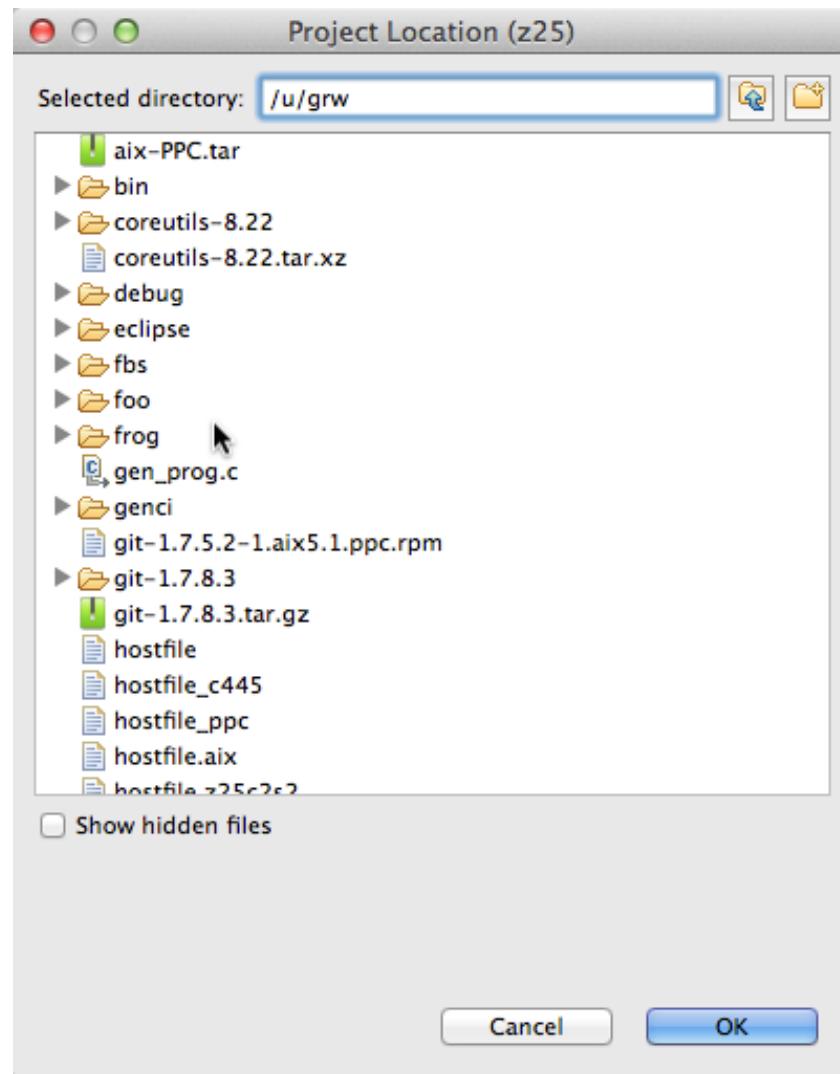
API Features

- IRemote* interfaces
- IRemoteConnectionWorkingCopy
 - All set* methods
 - save() method
- IRemoteServices#getCapabilities() provides user with information on what is supported by implementation
 - Connection creation/editing
 - Port forwarding
 - X11 forwarding
- remoteResources extension point maps project nature to remote resource
 - IRemoteResource res = (IRemoteResource)getAdapter(project);
- processFactory extension point allows alternate implementation of `java.lang.Runtime#exec()`
 - E.g. `org.eclipse.cdt.utils.spawner.ProcessFactory`

Preference Page



Resource Browser



UI Features

- IRemoteUI* interfaces to replicate many of the non-UI versions
- Widgets for embedding UI features in SWT layouts

JSch Provider

- Preferred provider
- Requires one sftp channel and one exec channel
- If MaxSessions < 2, will create two separate ssh sessions
 - Only happens once when the connection is opened

Availability

- Git:
 - <git://git.eclipse.org/gitroot/ptp/org.eclipse.remote.git>
- Update site
 - <http://download.eclipse.org/tools/ptp/builds/luna/nightly>
- Docs
 - <https://wiki.eclipse.org/PTP/designs/remote/API>