

Introduction to Perforce for Users

Introduction

- Introductions
- Class Schedule
- GUI vs. CLI
- About the Exercises
- The meaning of *live* (P4V Demonstrations)



Course Contents (1 Day)

- Overview
- Help!
- Basic File Operations
- File Reporting and Revision Specifiers
- Changelist Management
- Workspace Management
- Handling File Conflicts
- Branching and Integration
- Streams
- Labels (optional)
- Job Tracking (optional)

Copyright 2015 Perforce Software, Inc.

3



Introduction to Perforce for Users

Overview

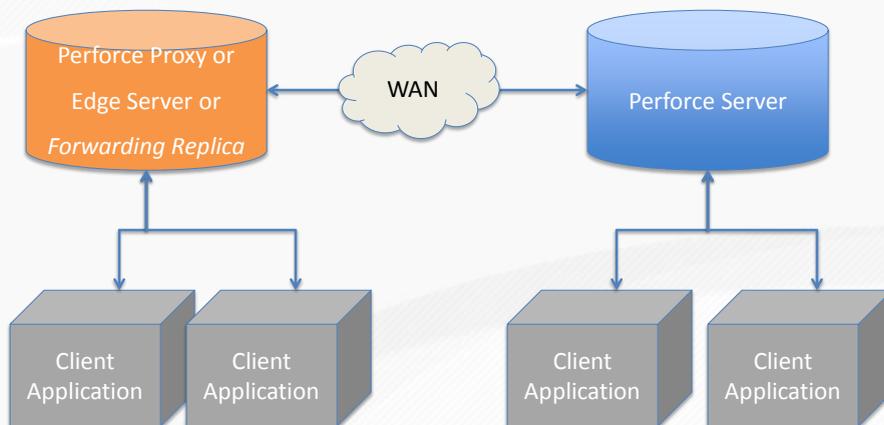
Copyright 2015 Perforce Software, Inc.

4

Overview

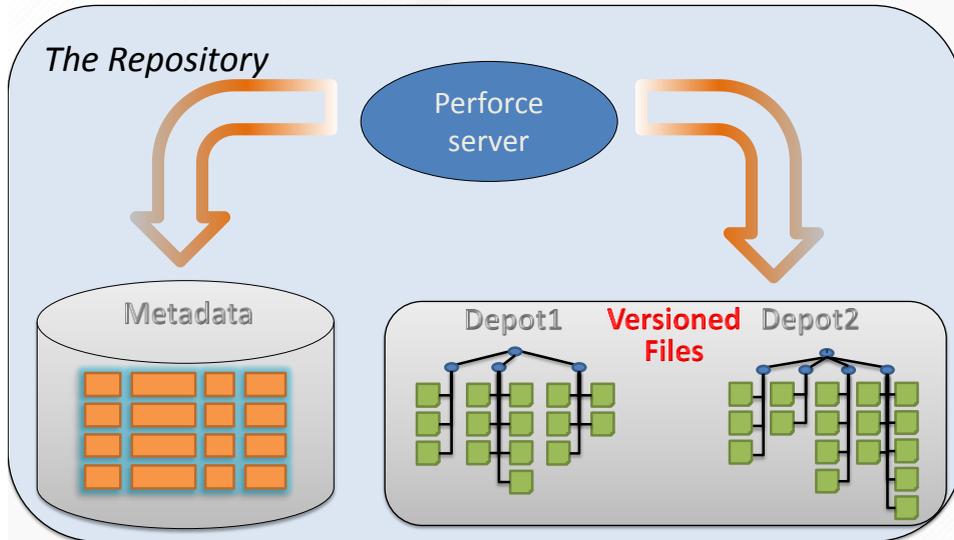
- Client/Server Model
- Server
- Client Programs
- Changelists
- Terminology: Client...
- Connecting to Perforce

Perforce Client-Server model





Perforce server

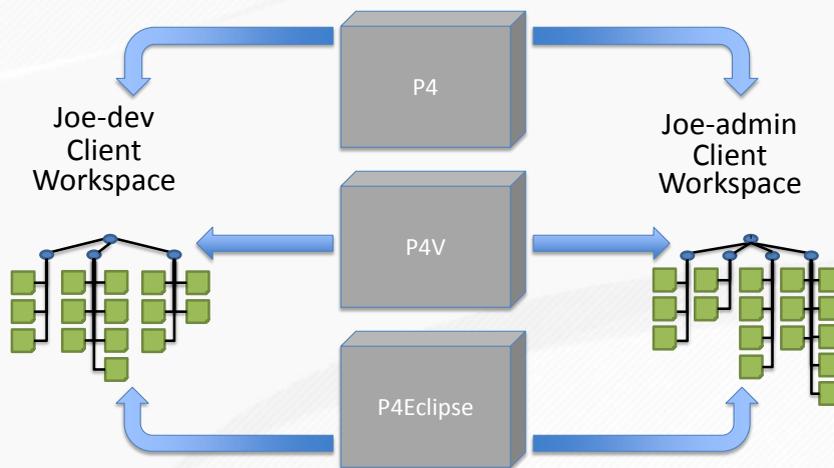


Copyright 2015 Perforce Software, Inc.

7



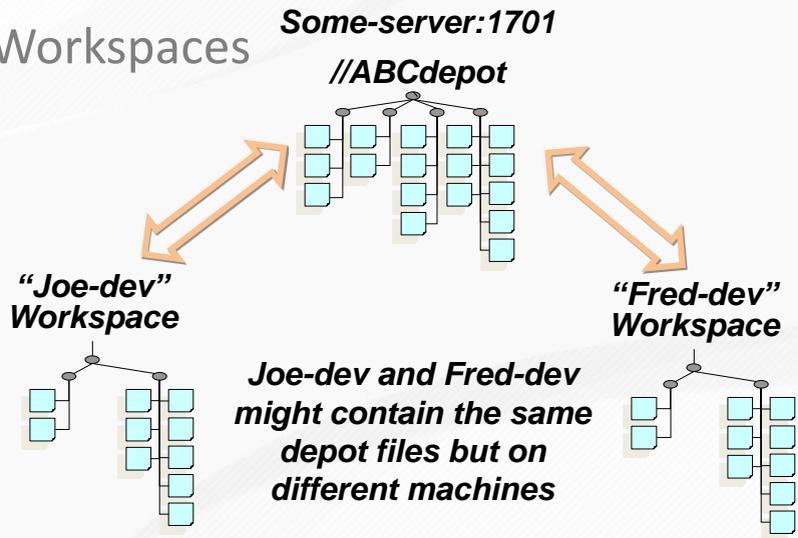
Perforce Client applications



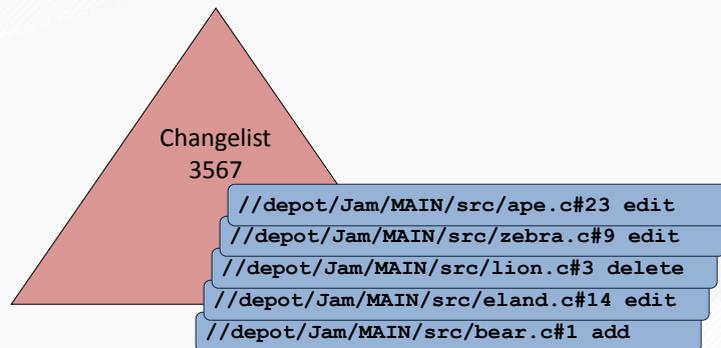
Copyright 2015 Perforce Software, Inc.

8

Server & Workspaces



Changelists



Terminology - Client ...

- Client machine
- Client programs
- Client workspaces

Connecting to the server *Live*

- Basic connection - specify
 - <Server-machine>:<port-number>
 - Username
 - Workspace (optional)
- You may be prompted for password

Commands in this Chapter

- Connecting to Perforce

Introduction to Perforce for Users

Help!

Help!

- P4V Help Files
- Online Perforce Documentation
- E-mail Perforce
- Perforce Forums / Community
- P4Blog / Newsletter

Getting help in P4V

live

- Task oriented context sensitive help
- Getting started with P4V manual
- Showing system information



Documentation on Perforce's web site

Support > Documentation

- Introducing Perforce
- Getting Started with P4V
- P4/P4V Cheat Sheet
- Perforce Command Reference
- Perforce System Administrator's Guide
- Release Notes
- Knowledge Base
- White Papers

Copyright 2015 Perforce Software, Inc. ¹⁹



Help via E-mail and other sources

- E-mail Perforce at:
 - support@perforce.com
 - sales@perforce.com
 - consulting@perforce.com
- Perforce Community
 - www.perforce.com/community
 - Forums / Blog / Ideas
 - Exchange ideas with other Perforce users

Copyright 2015 Perforce Software, Inc. ²⁰

Customize P4V

live

- General settings
- Editor choices
- Diff applications
- Merge applications
- File content font selection

New Actions in this Chapter

- **Help →**
 - **P4V Help**
 - **Getting Started with P4V**
 - **System Info**

Introduction to Perforce for Users

Basic File Operations

Basic Operations

- Populating a Client Workspace (Get Latest Revision)
- Editing, Adding and Deleting Files
- Renaming/Moving Files
- Reverting Files
- Assessing Current Status
- Submitting Changes

Get latest revision of files *live*

Get latest revision

- Select  Depot or  Workspace tree
- Select desired folder or files
- Selected files are transferred to your workspace from the server
- Files are read-only by default

26

Copyright 2015 Perforce Software, Inc.

Editing workspace files *live*

Check out...

- or
- Check out and open...
- Make local files writeable
- Optionally, open files in editor
- Other users can see which files you have checked out

27

Copyright 2015 Perforce Software, Inc.

Adding new files

live

Mark for Add...

- Save new files in your workspace tree
- Select the Workspace tree
- Refresh P4V and navigate to your files
- Optional:
 - Change Filetype...
 - Add file type modifiers
 - Change base file type

Deleting files

live

Mark for Delete...

- Select files for deletion on the server
- Marked files are removed from workspace

Renaming/moving

live

- **Rename/Move . . .**
- Rename a file or move to another server folder
- New file name is marked for move/add
- Old file name is marked for move/delete

Reverting workspace files

live

- **Revert**
- Discard action on marked files
- Edits overwritten
- Deleted files copied to workspace
- Files marked for add unmarked

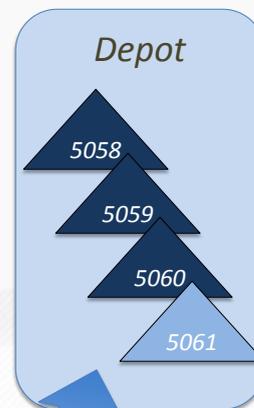
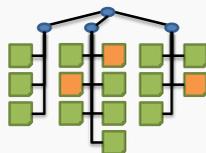
Assessing work in progress *live*

- ▲ Pending changelist tab
 - Which files are you working on?

 - **Diff Against Have Revision**
 - What changes have you made?

Submitting a changelist

Client Workspace



Submitting a changelist

live

Submit . . .

- Opens the submit dialog
- Enter a description for the default changelist
- **Submit**
 - Completes the submit action
 - Files are transferred to the server

34

Copyright 2015 Perforce Software, Inc.

New Actions in this Chapter

- **Context-click →**
 - **Get Latest Revision**
 - **Check Out**
 - **Mark for Add**
 - **Mark for Delete**
 - **Rename/Move**
 - **Revert**
 - **Diff Against Have Revision**
 - **Submit**
- Marked files show in pending changelist

35

Copyright 2015 Perforce Software, Inc.

Introduction to Perforce for Users

File Information / Reporting
Underlying principles and P4V
implementation

File Reporting

- Finding files
- Wildcards for filenames
- Revision specifiers
- Showing file and folder history
- Comparing and diffing files and folders

Searching for files

live

Find File...

- List files matching search pattern

Show In

- Depot Tree
- Workspace Tree
- File browser
- Pending Changelist

Supported Wildcards

- P4V vs CLI
- Two types

```
p4 sync ...  
p4 sync //depot/Jam/MAIN/...  
p4 sync //depot/Jam/R1.0/....txt  
p4 sync //depot/Jam/MAIN/doc/J*  
p4 sync //depot/Jam/MAIN/src/*
```



Revision Specifiers – CLI/API syntax

| Type | Syntax |
|------------------------------|--------------------|
| Revision number | #7 |
| Changelist number | @30 |
| Workspace name | @sams_ws |
| Label name | @rlos_label |
| Date | @2012/03/01 |
| <i>Latest revision</i> | <i>#head</i> |
| <i>Have revision</i> | <i>#have</i> |
| <i>Non-existent revision</i> | <i>#none or #0</i> |

Copyright 2015 Perforce Software, Inc. 40



What are Revision Specifiers?

- Identify a file or group of files

| Changelist | @5123 | @5179 | @5234 | @5259 | @5310 |
|--------------|-------|-------|-------|-------|-------|
| file1 | #1 | #2 | | #3 | #4 |
| file2 | | #1 | #2 | | #3 |
| file3 | #1 | | | #2 | |

- A changelist specifier can refer to:
 - The set of files contained in the changelist
 - A point in time in the life of your repository (like a label)

Copyright 2015 Perforce Software, Inc. 42



Why use Revision Specifiers?

- Restrict the scope of a command; for example:

- Sync to a particular revision

```
p4 sync //depot/Jam/MAIN/rules.h#12
```

- List files updated up to a known changelist

```
p4 files //depot/Jam/...@5234
```

- List changes submitted up to a known date

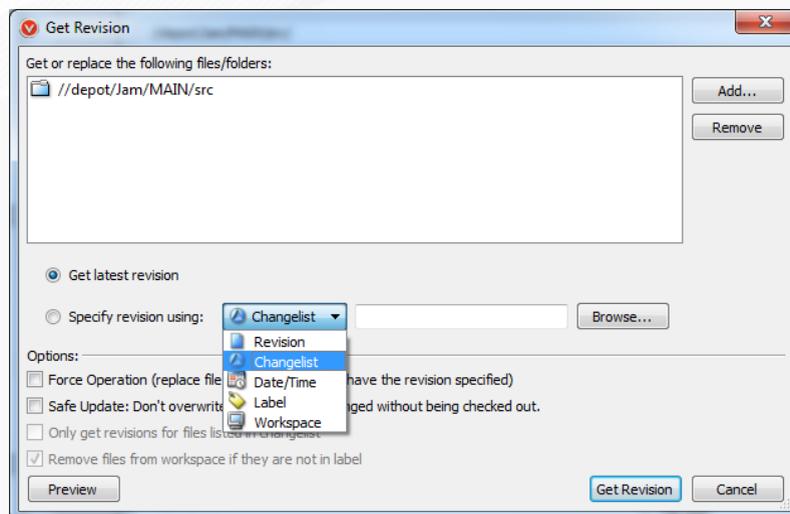
```
p4 changes //depot/Jam/MAIN/...@2012/04/21
```

43

Copyright 2015 Perforce Software, Inc.



Revision Specifiers - P4V



44

Copyright 2015 Perforce Software, Inc.



Revision Specifiers - CLI

```

p4 sync utils.c#2
p4 sync utils.c@431
p4 sync @431
p4 sync ...@431
p4 changes //depot/Jamgraph/DEV/gizmo/*.c@431
p4 sync @janslabel
p4 files //depot/Acme-api/...#have
p4 sync //depot/notes/....txt
p4 sync #none
p4 sync util.c@2014/05/29
p4 files //depot/Jam/...@2014/05/29:15:37:00

```

45
Copyright 2015 Perforce Software, Inc.



Revision ranges – CLI only

- Limiting commands to a revision range:

```

p4 changes abc.c@20,@32
p4 changes xyz.c@rel1,@rel2
p4 files //depot/api/...@431,@431
p4 files //depot/api/...@=431

```

- Some commands accept revision ranges:

```

p4 changes      p4 integ      p4 sync
p4 jobs         p4 files      p4 print
p4 fixes

```

46
Copyright 2015 Perforce Software, Inc.



Displaying file properties

live

Files in Folder

- Display file information

Details

Checked Out By

Preview



Displaying file history

live

File History

- List summary of each submitted revision
- Use drag-and-drop for showing file diffs

Details

Integrations

Labels

Preview



Displaying revision graph

live

Revision Graph

- View a file's history graphically
- View file differences
- Display file information

Details

Integrations

Labels

Preview

49
Copyright 2015 Perforce Software, Inc.



Displaying Time-lapse View

live

Time-lapse View

- Recently added lines color-coded
- Lifetimes of adjacent chunks of text
- Which user made the change?
- Find text in a file
- View a single revision, incremental diffs or a range of revisions

52
Copyright 2015 Perforce Software, Inc.

Removing workspace files

live

Remove from workspace

- Delete local files under Perforce control
- Leave marked files untouched

Displaying folder history

live

Folder History

- Drag-and-drop changelists to view **Folder Diff**

Using the Diff dialog

live



Diff Against...

- Select files or folders in the server
- Use a revision specification

File types

- Base file types:

| | | | |
|---------------------|----------------------|-----------------------|--------------------|
| <code>text</code> | <code>symlink</code> | <code>unicode</code> | <code>utf16</code> |
| <code>binary</code> | <code>apple</code> | <code>resource</code> | |

- Workspace storage attributes

| | |
|--|---|
| <code>+x</code> - <i>executable</i> | <code>+ko</code> - <i>RCS keyword (old style)</i> |
| <code>+w</code> - <i>always writable</i> | <code>+l</code> - <i>exclusive open</i> |
| <code>+k</code> - <i>RCS keyword</i> | <code>+m</code> - <i>sync vs. submit modtime</i> |

- Server storage attributes

| | |
|--|------------------------------------|
| <code>+S</code> - <i>latest revision</i> | <code>+D</code> - <i>deltas</i> |
| <code>+C</code> - <i>compressed</i> | <code>+F</code> - <i>full file</i> |

- See **Command Reference Guide** for definitive explanation

New Actions in this Chapter

- **Edit** → **Find File**
- **View** → **Files in Folder**
- **Context Click** →
 - *Get Revision*
 - *Revision Graph*
 - *Remove from Workspace*
 - *Diff Against*
 - *Change Filetype*
 - *File History*
 - *Time-lapse View*
 - *Folder History*
- **Tree Filter** pull-down menus

59

Copyright 2015 Perforce Software, Inc.

Introduction to Perforce for Users

Changelist Management

60

Copyright 2015 Perforce Software, Inc.

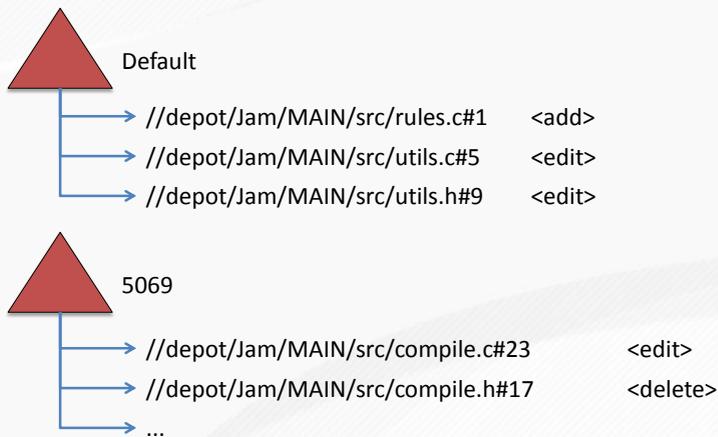
Changelist Management

- Managing pending changelists
- Shelving opened files
- Showing changelist detail

61

Copyright 2015 Perforce Software, Inc.

Multiple Pending Changelists



62

Copyright 2015 Perforce Software, Inc.

Working with multiple changelists **live**

Pending Changelists

- Organize your work
- Rearrange files before submitting
- Add to the description

Shelving opened files **live**

Shelve Files...

- Transfer edited files to a “shelved” changelist on the server
- Revert checked out files
- Clear previously shelved files

Working with shelved files *live*

-  Shelved files are available to other users
 - Unshelve and open for edit
 - View file differences
 - Transfer ownership
- Shelved changelists can be updated
- Owners can delete shelved changelists

Shelved Changes



Filtering changelists

Pending or Submitted Changelists

- Filter by:
 - Folder or file path
 - User name
 - Workspace name

New Actions in this Chapter

- **File → New → Pending Changelist**
- **Drag and drop files among changelists**
- **Context click →**
 - **Edit Pending Changelist <nnn>**
 - **Submit**
 - **Shelve Files**
- **View → Submitted changelists**
- **Context click →**
 - **View Submitted Changelist <nnn> →**
 - **Show File Diffs**
- **Filter Submitted Changelists**

Introduction to Perforce for Users

Workspace Management

Setting up a Workspace

- Creating a Workspace
- Setting Workspace View Mappings
- Referencing Files
- Configuring Workspaces and Connections

What is a workspace?

- View into a Perforce Server
- Local files in the workspace are managed by Perforce
- Uniquely identified by its name (**P4CLIENT**)

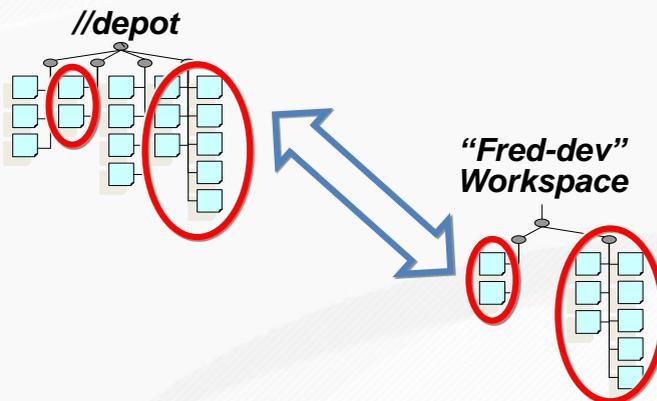
Why have multiple workspaces?

- Project/Branch oriented
- Better performance
 - For both you and your colleagues!

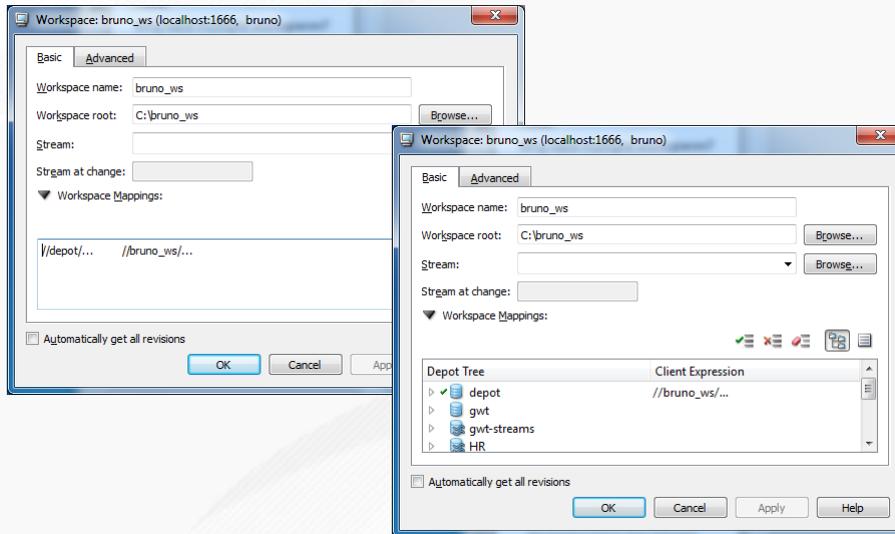
What does a workspace need?

- Name
 - Uniquely identifies the workspace
- Root
 - The workspace's root directory on your client machine
- View
 - Maps areas of a Perforce Server to client workspace

Workspace Views map between server and local file system



Creating a workspace specification



79

Copyright 2015 Perforce Software, Inc.

Creating a workspace specification *live*

Create a new workspace

- When launching P4V

Connection → New Workspace...

- In the **Depot** or **Workspace** tree
- In the **Workspaces** pane

81

Copyright 2015 Perforce Software, Inc.



Client workspace view

Client: bob-jam

Root: c:\p4work\bob-jam

View:

```
//depot/Jam/MAIN/src/...           //bob-jam/Jam/MAIN/src/...
-//depot/Jam/MAIN/src/tests/...    //bob-jam/Jam/MAIN/src/tests/...
//depot/Jam/MAIN/src/*.h           //bob-jam/Jam/MAIN/src/hfiles/*.h
//depot/Jam/MAIN/A/B/config/*      //bob-jam/Jam/MAIN/cfg/*
//depot/Acme-api/... .cpp           //bob-jam/Acme-api/... .CC
//depot/Jam/REL1.0/src/...         //bob-jam/Jam/REL1.0/src/...
+//depot/Jam/PATCH1.0/src/...      //bob-jam/Jam/REL1.0/src/...
```

82

Copyright 2015 Perforce Software, Inc.



Workspace view tab options ***live***

- Include or exclude
 - Files or folders
 - An entire tree
 - Files under one folder
 - Files by extensions
 - Files or folders mapped to different names

83

Copyright 2015 Perforce Software, Inc.



Workspace customization

live

- Specify a root folder
- Add alternate root folders
- Set workspace options
- Specify line ending translation
- Choose submit option

85
Copyright 2015 Perforce Software, Inc.



Viewing workspaces

live

- Filter workspaces by:
 - Owner
 - Names containing a string
 - Available for use on your computer

88
Copyright 2015 Perforce Software, Inc.

Copying workspaces

live

- Clone a workspace's
 - Options
 - View
 - Submit Options
 - Line Endings

New Actions in this Chapter

- **Open Connection → New → Workspace**
- **Details → Form/View tabs**
- **Connection →**
 - **Edit Current Workspace**
 - **New Workspace**
- **View → Workspaces →**
 - **Name contains: Filter**
 - **Context click → Create Workspace from <workspacename>**

Introduction to Perforce for Users

Handling File Conflicts

92

Copyright 2015 Perforce Software, Inc.

Handling File Conflicts

- File Conflicts
- Resolving Conflicts
- Conflicting Diffs
- Reporting Actions

93

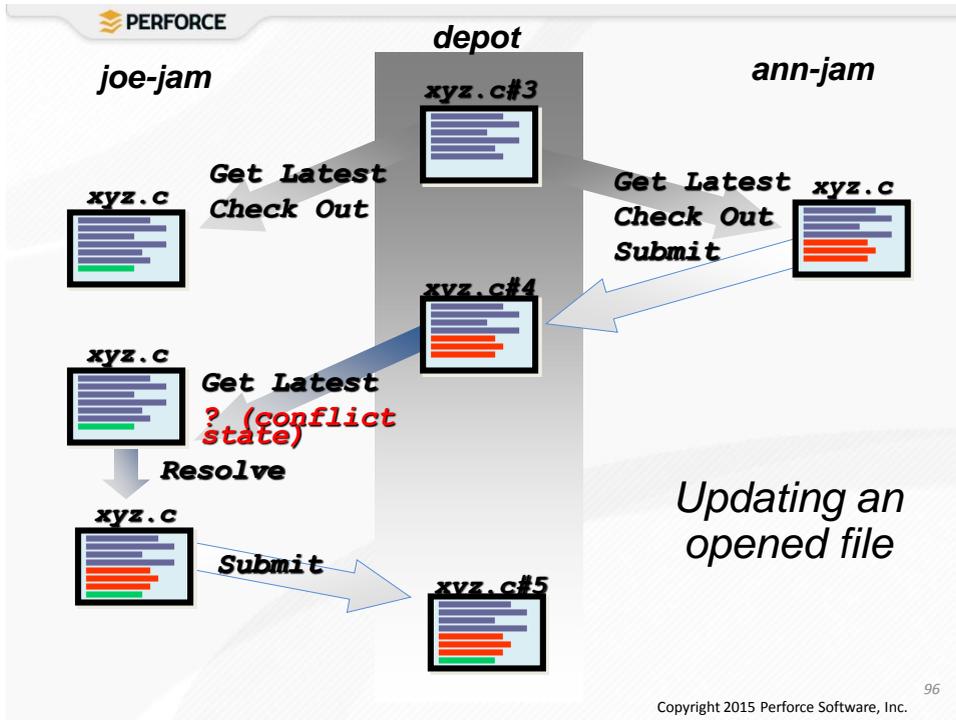
Copyright 2015 Perforce Software, Inc.

Classic conflict scenario

- Two users edit the same file
- First user submits
- Second user gets latest revision
- Resolve is 'scheduled'

Other conflict scenarios

- File conflicts
 - Submitting a change to an out-of-date file
 - Re-syncing an opened file that is out-of-date
 - Moving to an existing file
 - Unshelving onto an opened file
- *Integration conflicts*



PERFORCE

Updating out-of-date workspace files

live

- File checked out not at the head revision
 - Get latest revision to “schedule a resolve”
 - File checked out will not be changed
- File ready to resolve

97

Copyright 2015 Perforce Software, Inc.

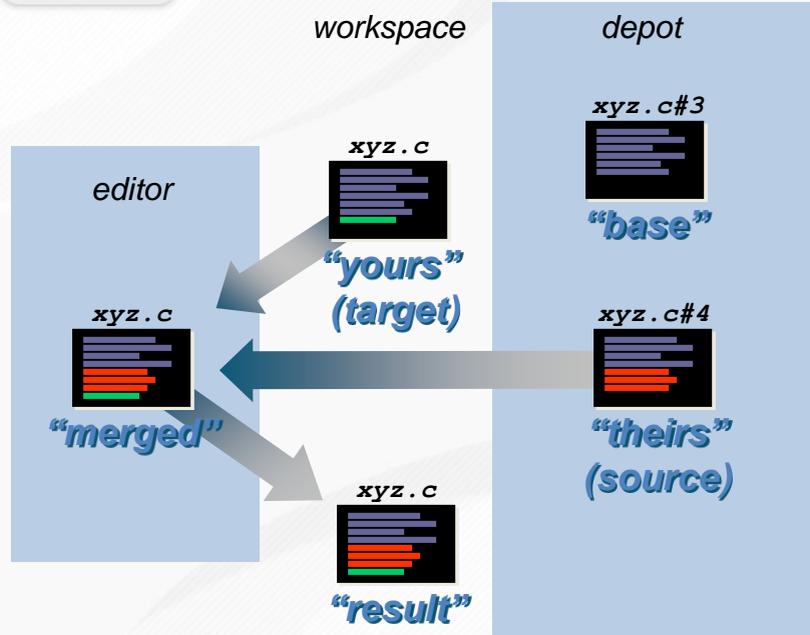
Textual vs. binary resolves

- Three-way resolves
 - Operate on text files
 - Use Yours, Theirs, and Base
 - Files can be merged

- Two-Way resolves
 - Operate (by default) on binary files
 - No binary diffs stored, so files can't be merged
 - Resolve choices: accept yours or theirs

99

Copyright 2015 Perforce Software, Inc.



100

Copyright 2015 Perforce Software, Inc.



Resolving files interactively

Resolve . . .

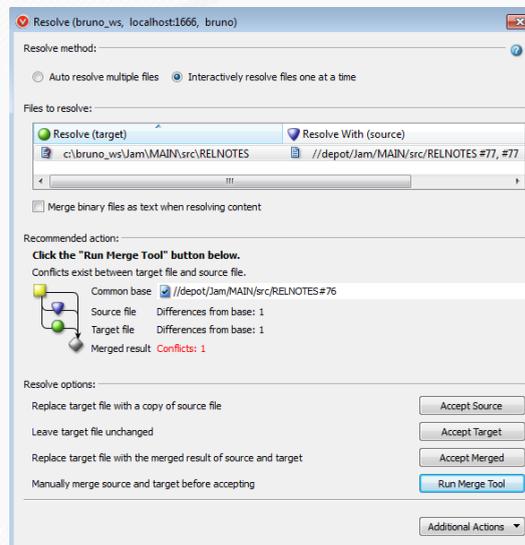
- Accept Source (Theirs – depot file)
- Accept Target (Yours – workspace file)
- Accept Merged
- Run Merge Tool
- Data mining / Additional Actions

101

Copyright 2015 Perforce Software, Inc.



Resolving options



102

Copyright 2015 Perforce Software, Inc.

Diff chunk types

yours

- Unique diff chunk in client file only

theirs

- Unique diff chunk in depot file only

both

- Unique diff chunk common to depot and client file

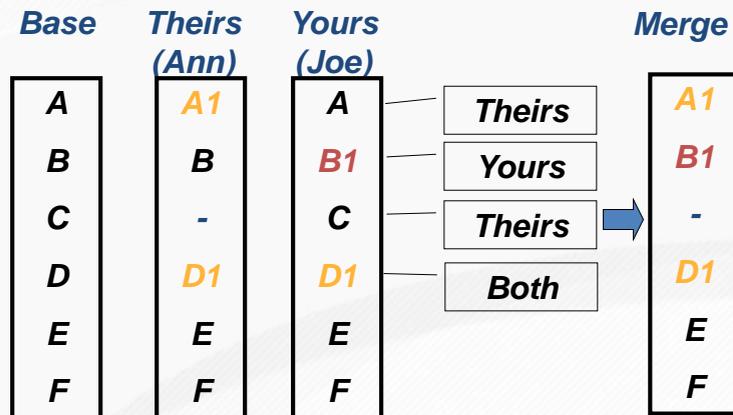
conflicting

- Unique diff chunk conflicting between depot, client and base.

105

Copyright 2015 Perforce Software, Inc.

Diff Chunks – Easy 3-way Merge

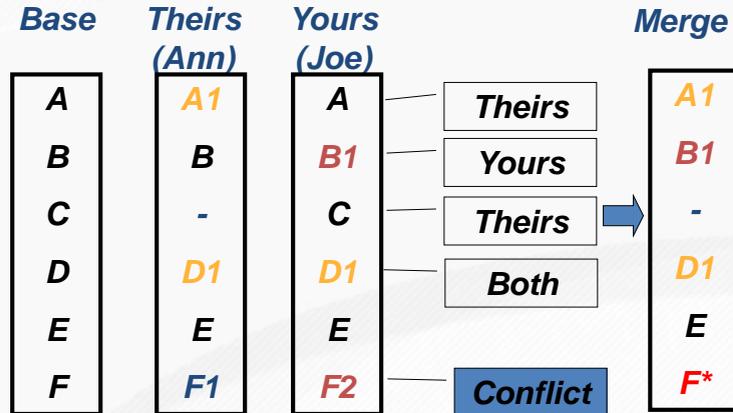


106

Copyright 2015 Perforce Software, Inc.



Diff Chunks – 3-way Merge conflicts

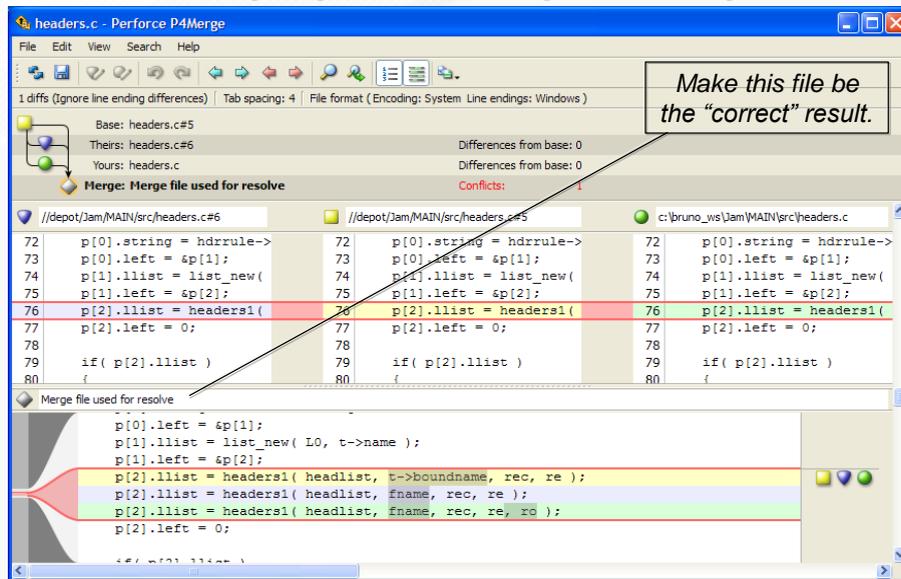


107

Copyright 2015 Perforce Software, Inc.



Merging files using P4Merge



Copyright 2015 Perforce Software, Inc.

Locking files

live



- Other users cannot submit until you submit or unlock the file
- Exclusive lock filetype prevents other users even checking out

Recovering a deleted file

live

Show deleted depot files



Rollback...

Submit...



Reconciling offline work *live*

- Mark files for:
 - add
 - edit
 - delete

New Actions in this Chapter

- **Context click** →
 - **Get Latest Revision**
 - **Resolve** →
 - **Open File**
 - **Diff**
 - **Run Merge Tool**
 - **Lock**
- **View** → **Submitted Changelists** →

Introduction to Perforce for Users

Classic Branching and Integration
Branching Files and Propagating
Changes
(and Branch Mappings)

120
Copyright 2015 Perforce Software, Inc.

Branching and integration

- Terminology
- Why branch?
- Integration steps – creating
- Integration steps – propagating

121
Copyright 2015 Perforce Software, Inc.

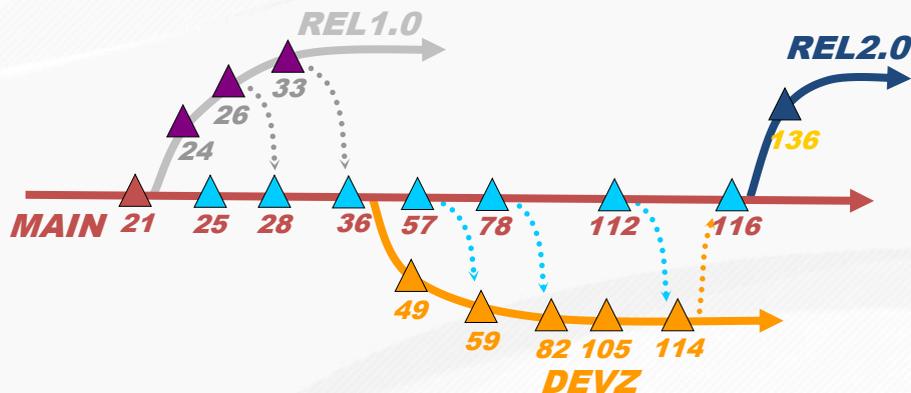
Terminology

- Branch
 - (noun) A set of related files (a.k.a. codeline), created as a copy of its parent
 - (noun) A branch mapping (in P4V)
 - (verb) To create a new codeline (branch)
- Integrate
 - To create a new branch/codeline ([Branch Files...](#))
 - To propagate changes between existing branches/codelines ([Merge/Integrate...](#) or [Copy...](#))

122

Copyright 2015 Perforce Software, Inc.

Some branching patterns



123

Copyright 2015 Perforce Software, Inc.

Why branch?

- Conflicting policies
- Task oriented development
- Discussed in more detail in:

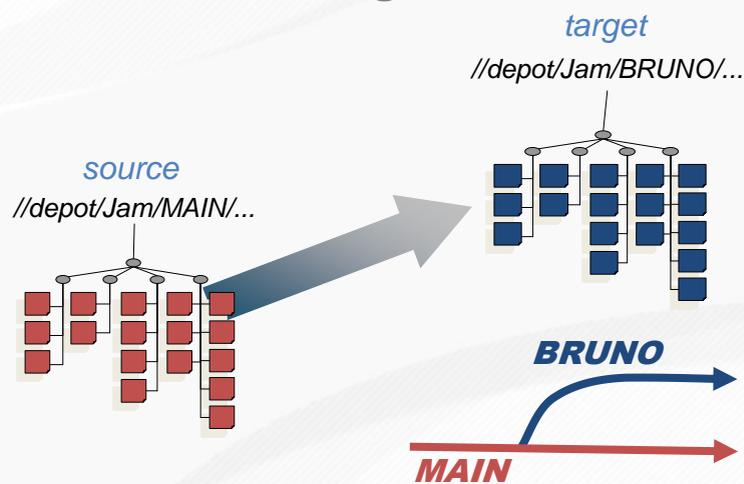
High-Level SCM Best Practices

<http://www.perforce.com/sites/default/files/pdf/high-level-perforce-best-practices.pdf>

124

Copyright 2015 Perforce Software, Inc.

Creating a branch



125

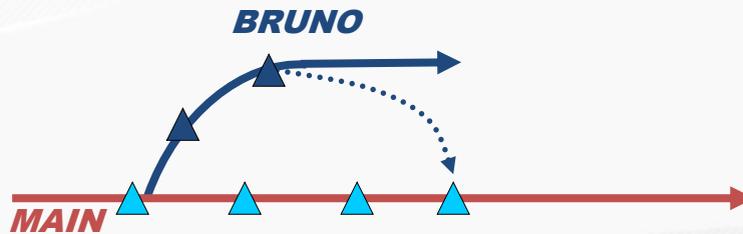
Copyright 2015 Perforce Software, Inc.

Creating a new branch

live

- **Branch Files...** specifying source and target
- **Submit...**

Propagating changes across branches



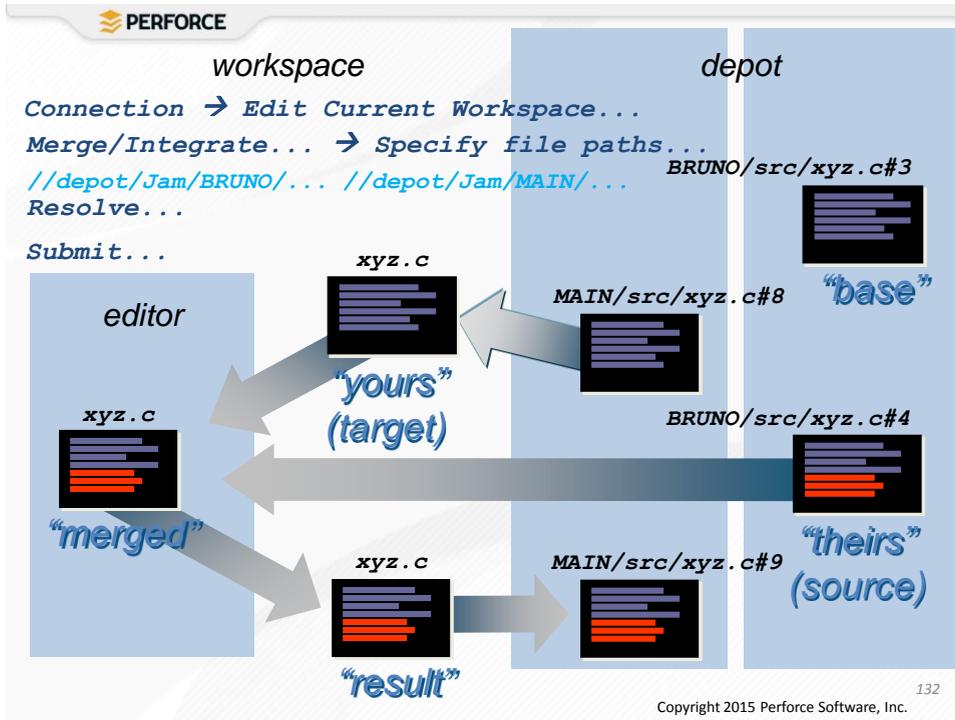
Propagating changes

live

- The target branch must be mapped in the current workspace view – we are changing those files!
- **Merge/Integrate...**
- **Resolve...**
- **Submit...**

Resolving for merge/integrate

- *Theirs* = Source
- ***Yours* = Target (the one being changed by merge)**
- *Base* = Closest common ancestor



PERFORCE

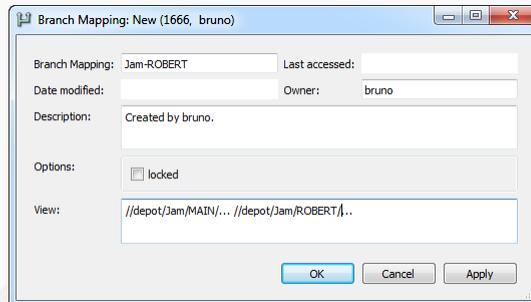
Integrating using branch mappings

- Branch mappings store source/target pairs
- Integrate using branch mappings
 - Create new branch or Save
 - Re-use to propagate changes

133
 Copyright 2015 Perforce Software, Inc.

Creating branch mappings

New Branch Mapping...



134

Copyright 2015 Perforce Software, Inc.

Integrating using branch specifications*live*

- **Merge/Integrate...**
- Choose branch spec
- **Resolve...** when propagating changes
- **Submit...**

135

Copyright 2015 Perforce Software, Inc.

Introduction to Perforce for Users

Automatic Resolving

136
Copyright 2015 Perforce Software, Inc.

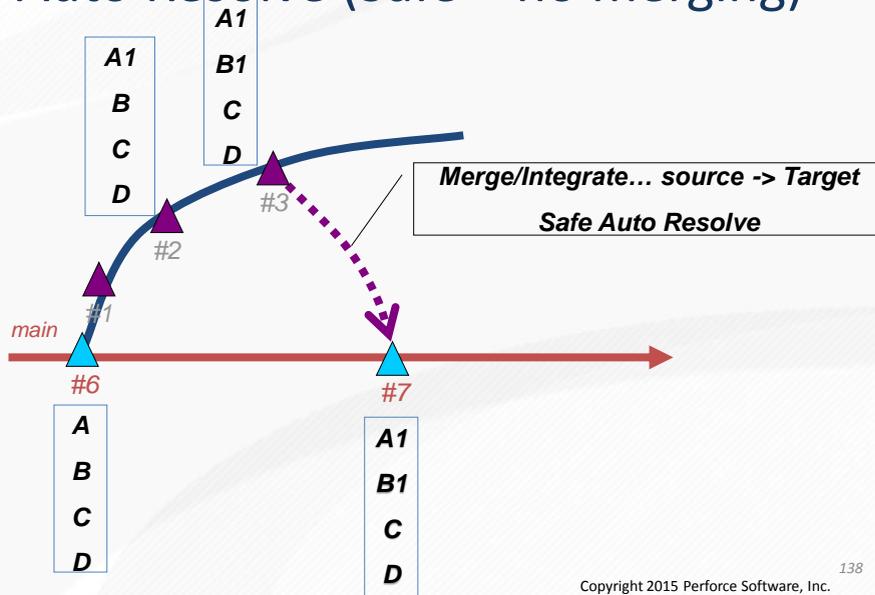
Automatic Resolve Options

Resolve . . .

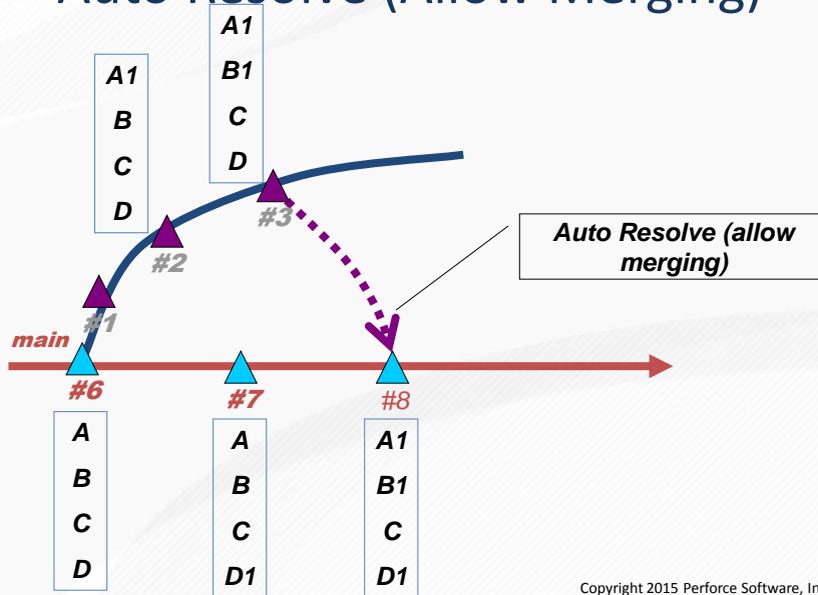
- Safe Automatic (no merging)
- Automatic (merging allowed)
- Interactive (conflicts present)

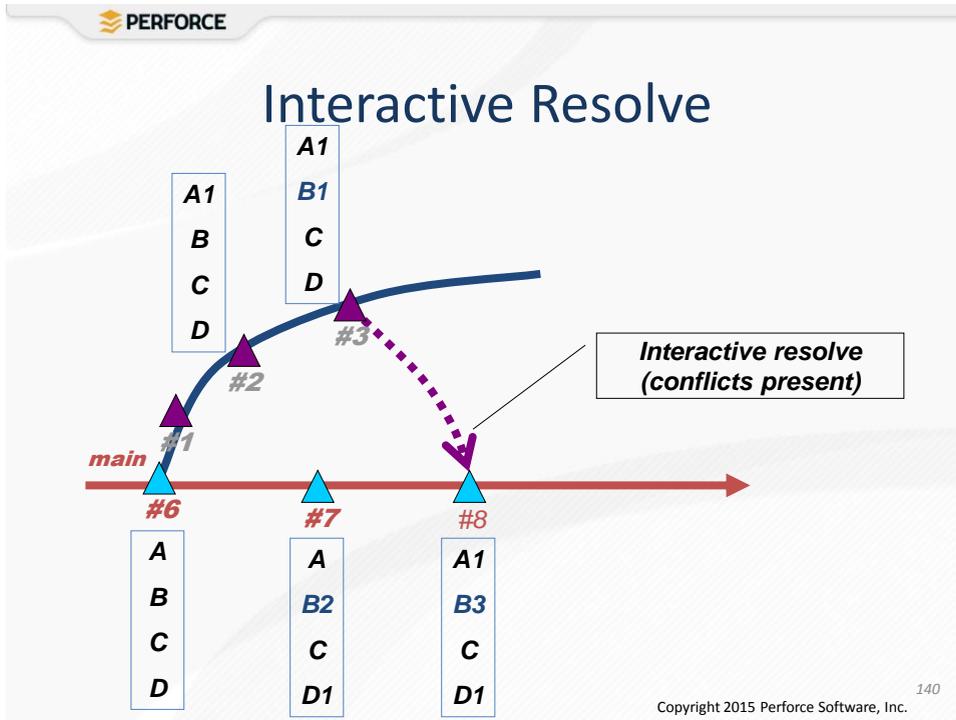
137
Copyright 2015 Perforce Software, Inc.

Auto Resolve (Safe – no merging)



Auto Resolve (Allow Merging)





PERFORCE

Automatic Resolve Options

Recommended every time

- Safe Automatic (50 - 80%)
- Automatic (35 - 15%)
- Interactive (15 - 0%)

Copyright 2015 Perforce Software, Inc. 141

Selective integrations

live

- Use any revision specification to limit the range of integration
- Integrate up to or only specific revisions
- Select **Advanced Options...** and store selections

New Actions in this Chapter, Part 2

- Context click → Branch Files → Specify target
- Context click → Merge/Integrate → Specify target
- Context click → Merge/Integrate → Save Branch Mapping
- Context click → Merge/Integrate → Select branch mapping
- Resolve...
- Context click →
 - Integrate... →
 - Specify source and target files →
 - Limit the range of the integration:
 - Advanced Options

Introduction to Perforce for Users

Using Streams

157
Copyright 2015 Perforce Software, Inc.

Streams

- Introduction
- Creating a stream
- Populating a stream
- Working in a stream
- Streams views

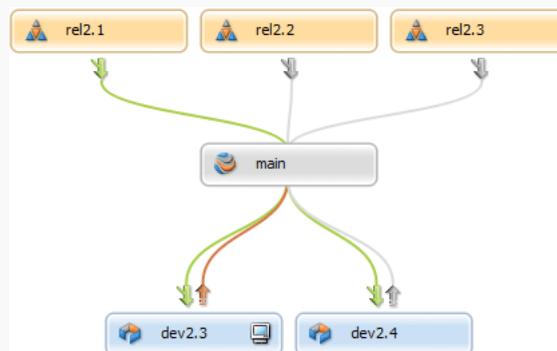
158
Copyright 2015 Perforce Software, Inc.

Introduction

- Intelligent branching
- Policies govern workflow
- Control the flow of change
- 1:1 relationship
- All are decedents of the mainline
- Defined relationship to its parent...
...not to its children

Stream relations

- Controlled flow of change



Stream Types

'release'

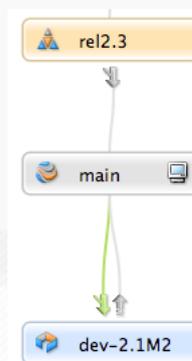
Highly stable
 (merge 'down' to parent, typically no copy 'up')

'mainline'

Stable per your policy
 (merge 'down' to dev, copy 'up' from dev)
 (merge 'down' from release, copy 'up' to release)

'development'

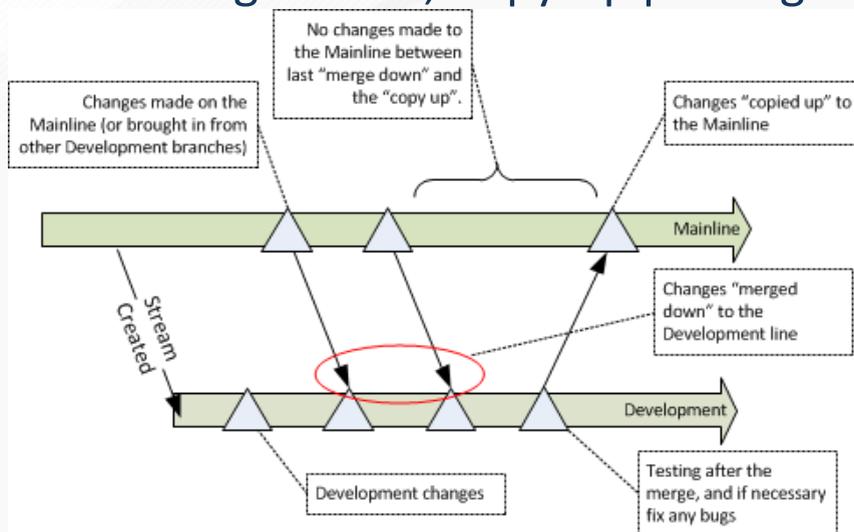
Unstable
 (merge 'down' from parent, copy 'up' to parent)



162

Copyright 2015 Perforce Software, Inc.

The Merge-down, Copy-up paradigm



163

Copyright 2015 Perforce Software, Inc.

PERFORCE

Creating a stream

The screenshot shows the Perforce 'Graph View Options' window with the 'Depot' set to 'Jaguar'. A 'Jaguar_main' stream is selected in the 'Select Streams' list. A context menu is open over the stream, listing options such as 'View Stream', 'Merge/Integrate', 'Copy to', 'Branch Files', 'Work in this Stream', 'New Workspace', 'Create New Stream from', 'Edit Stream', and 'Delete Stream'. A mouse cursor is pointing at 'Create New Stream from 'Jaguar_main...''. Below the stream list, there are buttons for 'New Stream... Ctrl+N' and 'Refresh Stream List'. A text annotation reads: 'Right click options to create a new stream'.

164

Copyright 2015 Perforce Software, Inc.

PERFORCE

Stream workspaces

The screenshot shows the 'Workspace: New' dialog box. The 'Basic' tab is active. Fields include: 'Workspace name: bruno_Jaguar', 'Workspace root: C:\p4book\bruno_Jaguar', and 'Stream: Bruno_dev (//Jaguar/Bruno_dev)'. There are 'Browse...' buttons for the root and stream fields. Below, there is a section for 'Workspace Mappings' with a table:

| Depot Tree | Client Expression |
|------------|-------------------|
| ▶ Jaguar | |

At the bottom, there are checkboxes for 'Switch to new workspace immediately' (checked) and 'Automatically get all revisions' (unchecked). 'OK', 'Cancel', and 'Help' buttons are at the bottom right.

165

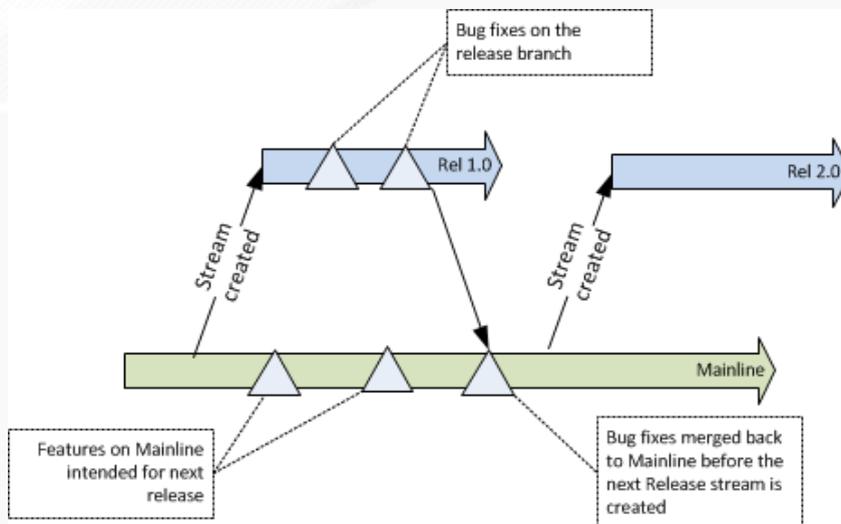
Copyright 2015 Perforce Software, Inc.

Changes requiring propagation

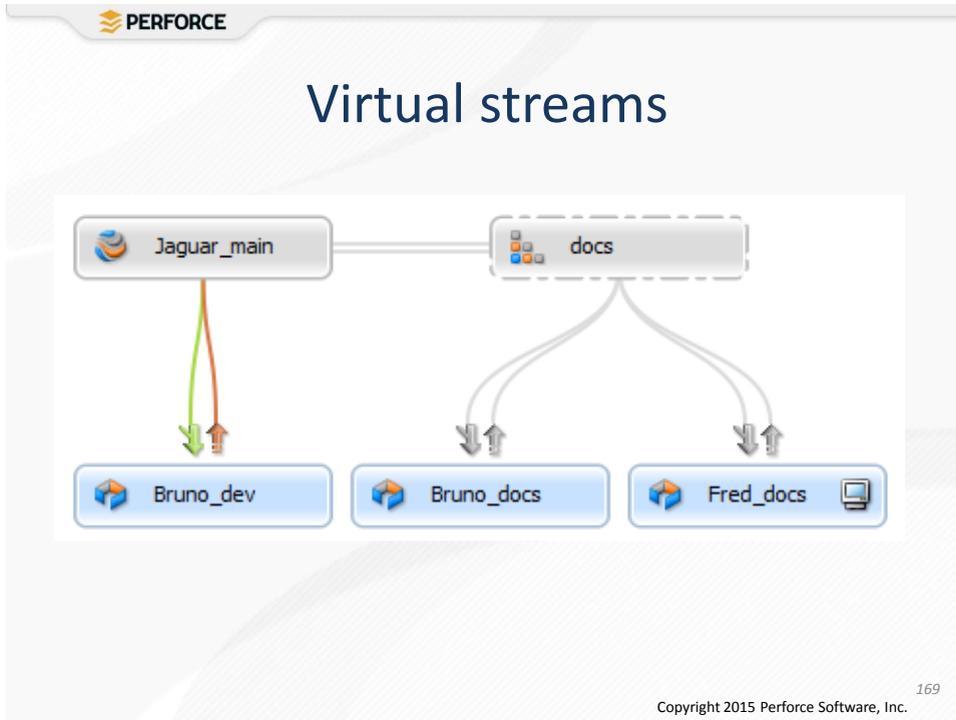
The screenshot shows the Perforce IDE interface. On the left, the 'Workspace' pane shows a depot named 'Jaguar' with a sub-branch 'Bruno_dev'. The 'Streams' window on the right shows a dependency graph where 'Jaguar_main' is the parent stream and 'Bruno_dev' is the child stream. Below the workspace, the 'Log' and 'Dashboard' tabs are visible. The 'Dashboard' shows the workspace folder path and a task to 'Merge from Jaguar_main (1 change)'. The 'Folder status' indicates that all files are at the latest revision.

166

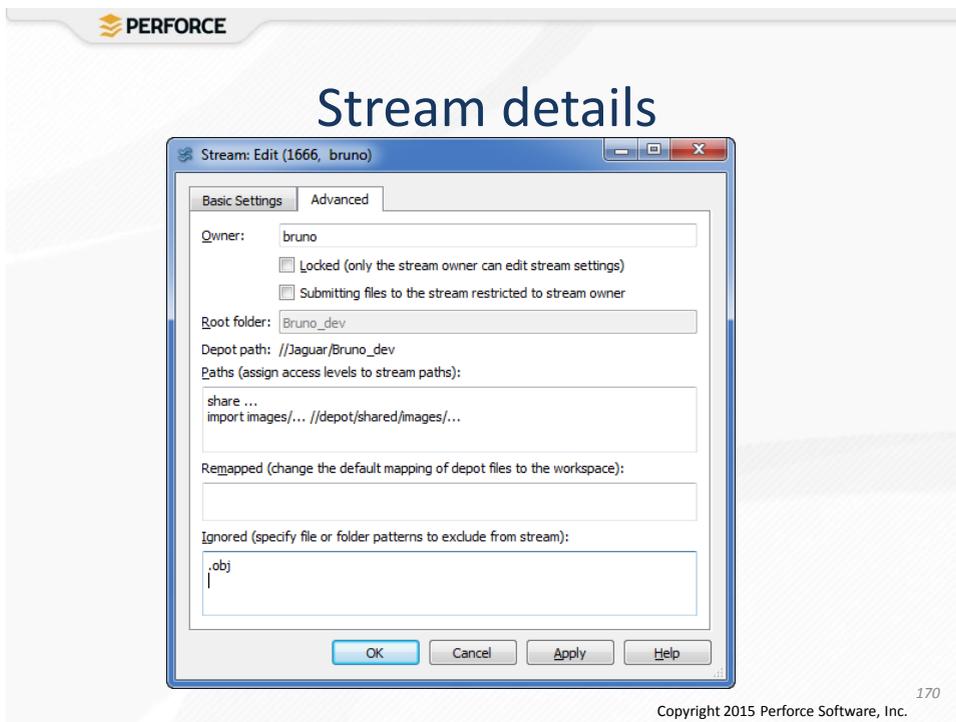
Release streams



168

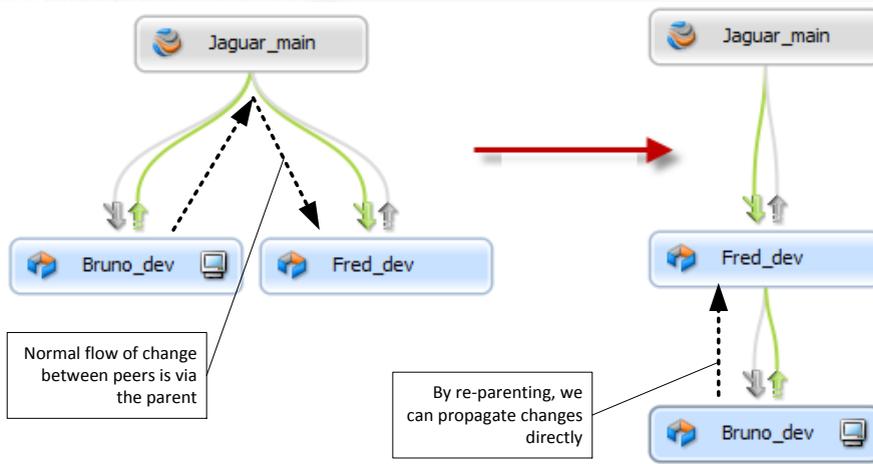


169
Copyright 2015 Perforce Software, Inc.



170
Copyright 2015 Perforce Software, Inc.

Propagating changes across hierarchy



171

Copyright 2015 Perforce Software, Inc.

New Actions in this Chapter

- **File → New → Stream**
- **Merge/Integrate**
- **Copy**

173

Copyright 2015 Perforce Software, Inc.

Introduction to Perforce for Users

Labels

174
Copyright 2015 Perforce Software, Inc.

About Labels

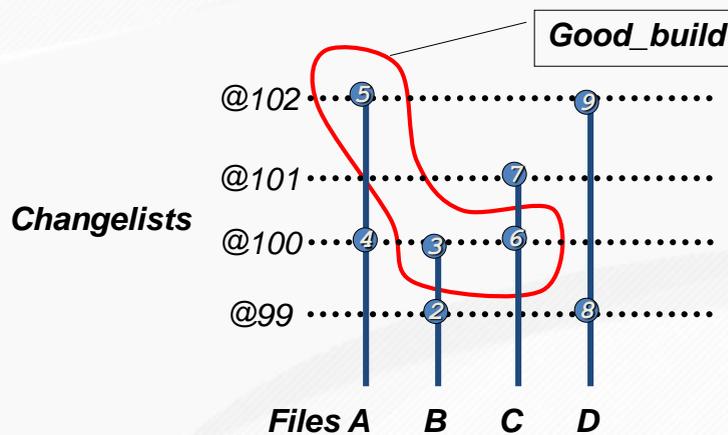
- Labels vs. Changelist Numbers
- Creating a Label
- Tagging Files With a Label
- Locking a Label

175
Copyright 2015 Perforce Software, Inc.

Labels vs. changelist numbers

- *User-determined file set*
- *Can be changed*
- *Meaningful names*

Labels – cutting across changelists





Creating a label specification

live

Labels



- Add a description
- Select which files or paths can be tagged
- Can exclude files or paths

178

Copyright 2015 Perforce Software, Inc.



Tagging files with a label ***live***

- Tag files using a revision specification
- Tag workspace file revisions
- Display the list of files tagged by a label

180

Copyright 2015 Perforce Software, Inc.

Use automatic labels

live

- Less data stored on your server
- Create a mnemonic between a changelist and a label name.

Updating labels

live

- A label can be removed from files
- A label can be updated with different file revisions
- A label can be updated with additional files



Getting tagged file revisions

live

- Examine the list of files tagged by the label
- Check workspace view
- **Get Revision...** and use the label name to specify the revisions

184

Copyright 2015 Perforce Software, Inc.



Showing labels

live

- Show all label specifications
- Filter by:
 - Folder or file name
 - Owner
 - String in label name

185

Copyright 2015 Perforce Software, Inc.

Locking a label

live

- Prevent changing the list of files tagged by a label
- The owner can unlock a label

New Actions in this Chapter

- **File → New → Label**
- **Context click →**
 - **Label →**
 - **Apply selected label to files →**
 - **Add a revision specifier**
 - **Remove selected label from files**
 - **Get Revision**
 - **Show the List of Files**
 - **Select label → Edit Label <labelname>**
- **View → Labels**

Introduction to Perforce for Users

Job Tracking

190
Copyright 2015 Perforce Software, Inc.

Job Tracking

- Perforce Jobs
- Creating a Job
- Searching Jobs
- Linking Jobs to Changelists
- Job Fix Reporting

191
Copyright 2015 Perforce Software, Inc.

Perforce jobs

- Perforce's defect tracking system
- Textual descriptions of unit of work
- Can be customized
- Can integrate with external defect tracker

Creating a job

live

Jobs

- Add the job description and save the form
- Edit to add more information

Listing jobs

live

- List all jobs
- Filter by:
 - Bookmark
 - Keywords
 - Folder or file name
 - Filters are stored for future use

Job search examples

```
filter email
status|email
status=open user=edk
date>=1998/07/14
description=filter*
r2.1 beta.exe doesn't
```

Linking jobs to changelists

live

Users

- Add to the Job View: filter
- Jobs added automatically to default changelist
- Add a job to any numbered changelist

Pending

Submitted

198

Copyright 2015 Perforce Software, Inc.

Job fix reporting

live

- View the job status in the **Jobs** pane
- View a job to list associated changelists
- View a changelist to list associated jobs

201

Copyright 2015 Perforce Software, Inc.

New Actions in this Chapter

- **File** → **New** → **Job**
- **View** →
 - **Jobs** →
 - **Context click on job** →
 - **Edit**
 - **Linked changelists display**
 - **Enter search string**
 - **Pending/Submitted Changelists** → **Expand changelist to see jobs**
- **Connection** → **Edit Current User**
- **Context click** → **Edit Pending/Submitted Changelist <nnn>** → **Add/Browse for jobs**

203

Copyright 2015 Perforce Software, Inc.

Introduction to Perforce for Users

Code Review - Swarm

204

Copyright 2015 Perforce Software, Inc.

Section Contents

- Background to code review
- Overview and details of Swarm

•205

Copyright 2015 Perforce Software, Inc. ²⁰⁵

Build quality in

- Find bugs early
- Share knowledge within the team
 - Code tends to be neater, better documented, and better organized
- Consistency in design and implementation
- Better security considerations

•206

Copyright 2015 Perforce Software, Inc. ²⁰⁶



Code Collaboration to the Rescue



• **Better Code**

• **Pain-free Integrations**

• **Faster Deploys**

Copyright 2015 Perforce Software, Inc. ²⁰⁷



Perforce Swarm

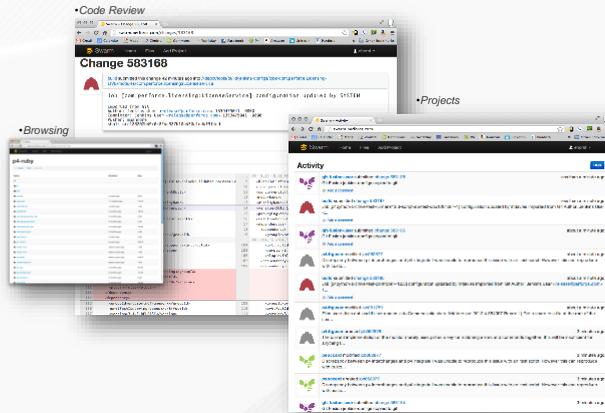
- Comprehensive code collaboration platform
- Flexible, integrates with your tool chain
- Seamless interaction via Perforce or Git
- Built for continuous delivery



Copyright 2015 Perforce Software, Inc. ²⁰⁸



Swarm Highlights



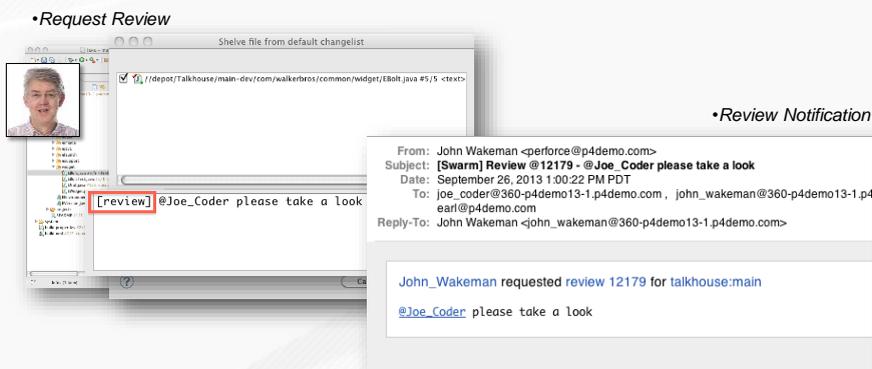
- Real-time code collaboration and review
- Inline comments and diff
- Integrates with rest of lifecycle
 - Bugs
 - Build
 - Code Analysis
- Supports Git and P4V users
- User Extensible
- Leverages Perforce versioning engine

209

Copyright 2015 Perforce Software, Inc.



Request a Code Review from within Perforce Versioning Engine...

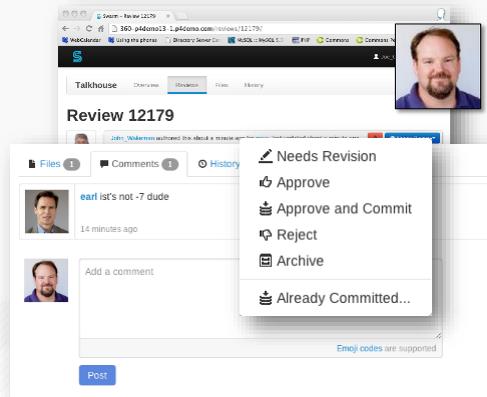


210

Copyright 2015 Perforce Software, Inc.

Review, Comment, Approve...

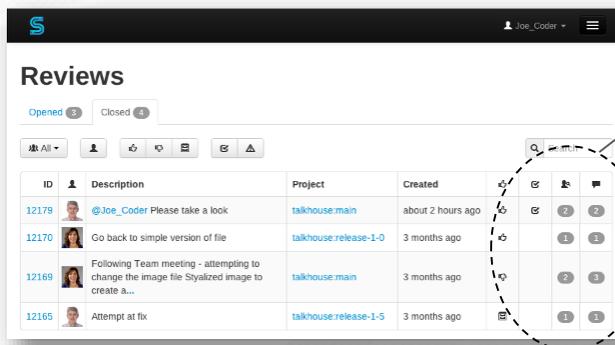
- Link from email or within Swarm
- Comments
 - Inline in the “diff” view
 - See other comments
- Approve, Reject, etc.
 - Notification of status change



211

Copyright 2015 Perforce Software, Inc.

Status Dashboard



- *Review Status*
- *Results from other tools*
 - Build
 - Code analysis
 - QA
- *Ability to Test Run appropriate projects*
- *Everything is Clickable*
 - Links to other tools

212

Copyright 2015 Perforce Software, Inc.



Finally...

Visit Perforce

<http://www.perforce.com>

and our Public Depot

<http://wiki.workshop.perforce.com>

for current listings of available software

222
Copyright 2015 Perforce Software, Inc.



Perforce Highlights

FAST

Easy to learn

Superior technical support

Cross-platform compatibility

Atomic change transactions

Powerful integration algorithm

223
Copyright 2015 Perforce Software, Inc.



The End

All Perforce manuals and technical notes are available
at www.perforce.com.

Report problems and get technical help from
support@perforce.com.

Share tips and ideas with other users on
<http://forums.perforce.com>