

Distributed Development Configurations With Perforce

How to Use P4 Proxy, Remote Depots, and Some Other Tools to Support Far Flung Development Teams or Individuals



The Players

- P4D
- P4P
- P4 clients
- Remote Depots
- Perforce Protocol
- Other tools... P4JRep



P4D The Perforce Server

- P4D controls the central storage of Perforce
- Manages a depot (archive of file contents) and metadata (user, date, version number, defect tracking et al.)
- Transmits contents and answers to clients



P4P The Perforce Proxy

- P4P - The Perforce Proxy modifies communication between P4D server and Perforce clients
 - Keeps copies of file revisions closer to clients
 - Use those copies when possible
 - Minimize transfers from the central server
- A remote cache of file revisions



P4P Proxy Configuration

- A Proxy looks like a server to clients and looks like a client to a server
- A Proxy must have
 - TCP address for client connections (-p port)
 - TCP address of a P4D server for proxy communication (-t host:port)
- Designed for Slow P4D to P4P connection



P4P Configuration (cont.)

- Compression is normally enabled between the P4D and P4P even if the client does not enable compression
- Disable P4P <-> P4D compress with -c
- Clients with compression enabled will compress all communications. (SIR to change this outstanding)



Proxy Protections

- Clients which connect to P4D via a proxy use the string 'proxy-<ipaddr>' in the protections specification
- P4D administrators should examine if they need to make protections changes



Other Proxy Information

- Architecture independent - you can mix your P4D and P4P platforms
- Minor problem if P4P is case insensitive and P4D is case sensitive
- Proxies can not be chained (yet)
- Commands which can be improved :
sync, revert, resolve, print, integ, diff



P4 Clients

- Two-way communication between Perforce Client programs and P4D server
 - Clients send and receive file revisions and update the files in the client workspace
 - Clients know nothing about how the proxy works - Pre-proxy clients work with the proxy



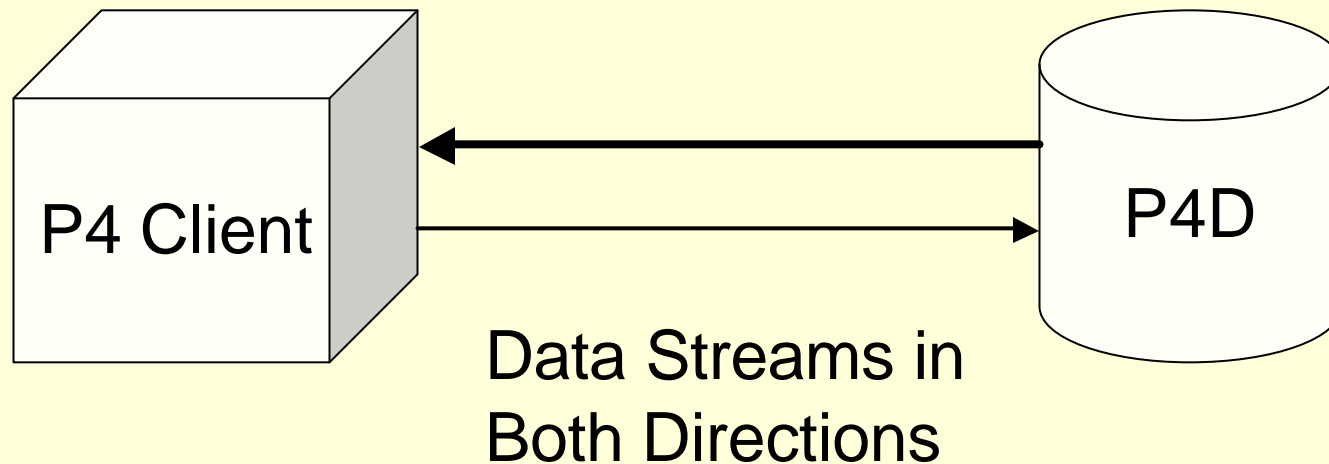
Perforce Protocol

- Optimized for streaming results and file contents.
- Network latency is not usually a performance problem
- Bandwidth is typically the performance limiter to distant sites



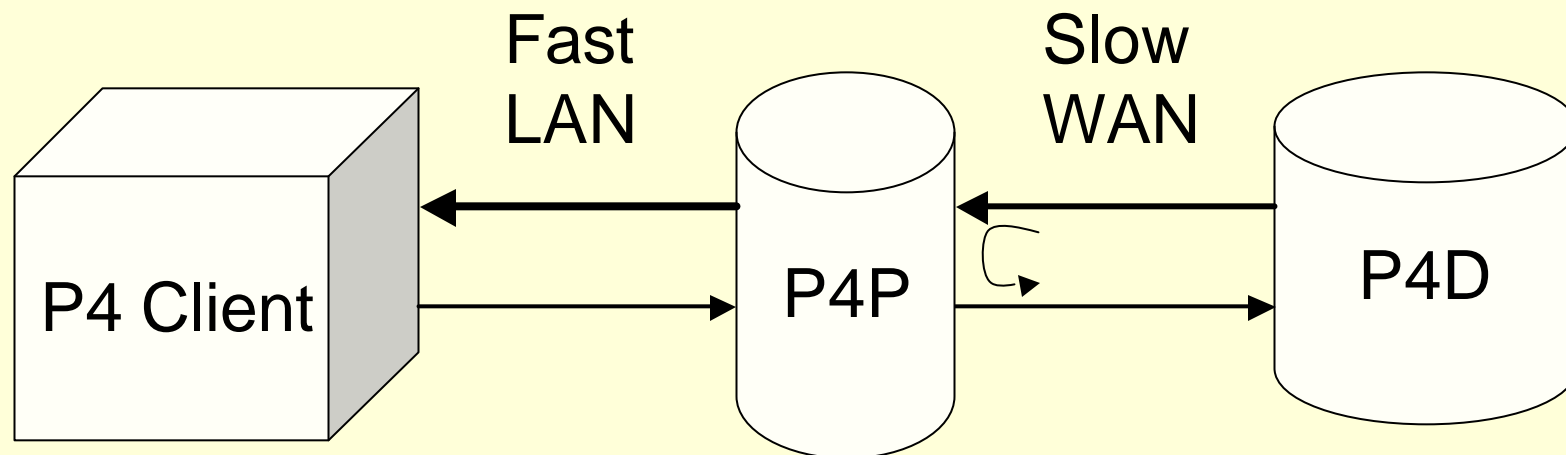
Perforce Protocol (cont...)

➤ Basic Communications Diagram



Proxy Protocol

➤ Communications via the Proxy



Data Streams in Both Directions with
the Proxy modifying the stream

Remote Depots

- Remote Depots allow easy transfer of changes between multiple Perforce depots
- Changes can only be taken from a remote depot into a local depot
- Performance is limited by metadata transmissions



Other tools... P4JRep

- The Perforce user community is another source for tools not supported by Perforce Software
- P4D metadata journal replication on a remote machine for business continuity
- Perforce Public Depot
`//guest/michael_shields/src/p4jrep/...`



Sample Cases

➤ The Tutorial cases...

