

Software IO Process Flow

Build Team

SAMPLE

*Software IO Process Flow
Build Team Information*

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Purpose

This document describes the process flow of the servers dedicated to Software IO (SWIO) for building and testing drivers for processors. At the time of publication, there are approximately 200 builder servers, one database and one web server.

- The database is supported by IT up to the operating system; SWIO manages the applications.
- The web server is supported by IT.
- Each builder processes requests for only one operating system. Approximately 97% of the builders are virtual machines. The remaining builders are physical as they support Mac operating systems. X identifies the machines as *builderxx*; IT identifies the machines as *Xxx*. Except for maintenance provided by IT, the X builders are 100% managed by X. However, activity such as migrating and decommissioning the servers requires interaction with the appropriate IT teams.

NOTE—This X subnet has no contact external to COMPANY; network changes do not require approval from the Change Management Committee or Information Security.

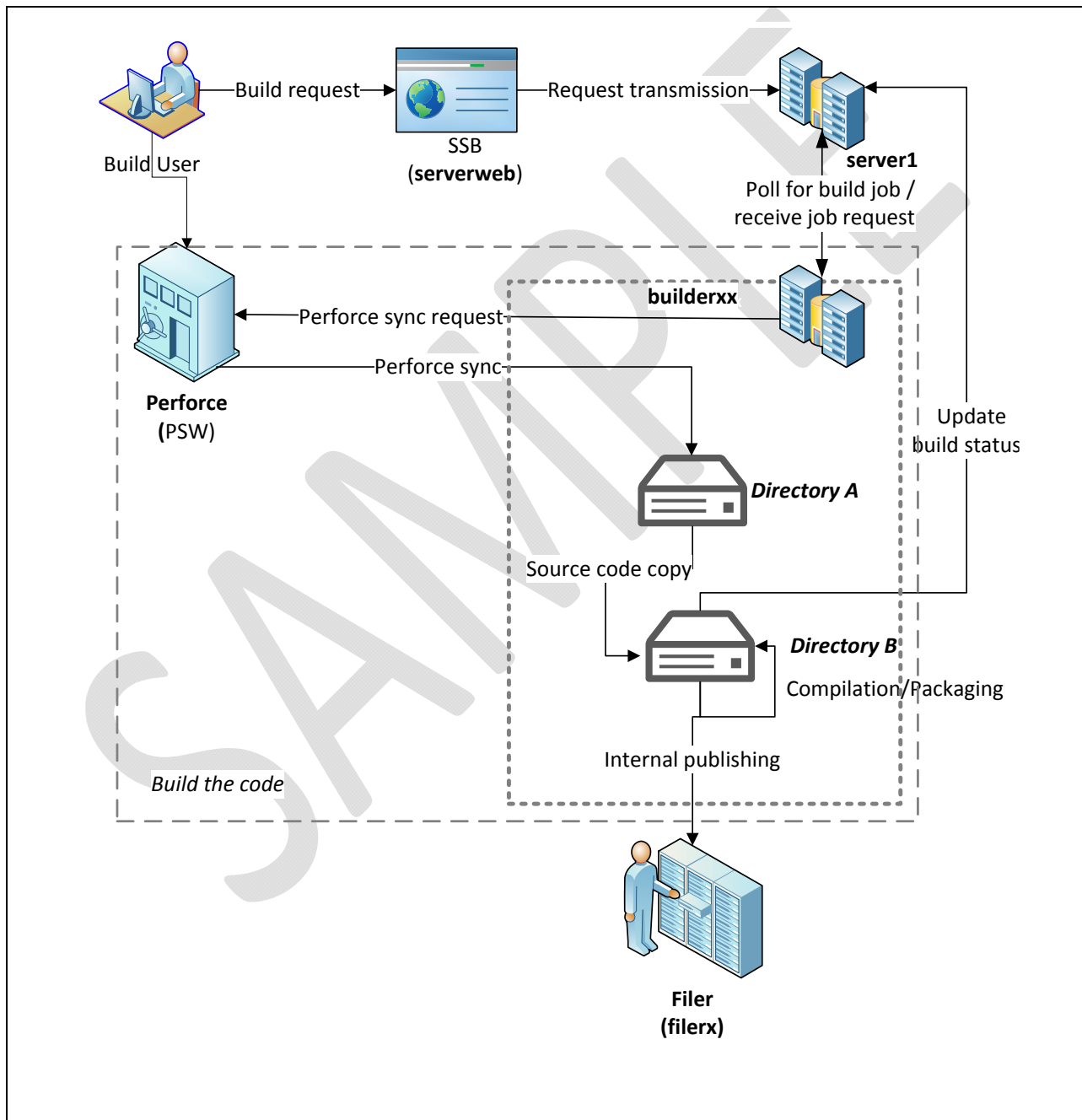
Scope

- This document provides information about the functions and operations of the X servers.

Overview

To support the marketing and sales of processors and video cards, drivers (firmware) are built on request.

- Building the code is an automated process: run on an internal subnet that is managed by SWIO.
- The requests are typically run at night. When complete, the results are delivered to the requestor.
- The diagram below summarizes the process. Details are provided in the next section.



Flow Process

1. A user submits a work request for a driver.

A user is an internal COMPANY customer, such as a Product Manager, a developer or a QA engineer.

- 1.1. To submit a request, the user logs in to and submits the request via online form. Filled out, the form provides the necessary information for the SWIO system to process the request.
- 1.2. Initially, the work request is received by the web server (serverweb).

2. The web server delivers the request to the IO database (server1).

3. The database server (server1) categorizes the request for building.

The selected category is based on the details provided in the request.

- Part of the category is which builder machine can process the job.
- Each builder machine can only process jobs for one specific operating system.

4. Available builders (builderxx) poll the database for jobs.

Each builder has a daemon. One function of the daemon is polling the database when the builder is available.

- 4.1. When a builder is available, it polls the database for a job.
- 4.2. The database compares the polling request from the builder to the open job requests. If an appropriate job request is open, the database delivers that job request to the builder machine. Otherwise, the poll is ignored.
 - A builder machine can only process one job at a time. If there are multiple jobs that the builder machine can process, the database will assign the job request that is first in the queue.

5. The builder generates the requested code.

Another function of the builder's daemon is starting a build script. The code is generated with the following steps:

- 5.1. The builder requests the original code from Perforce.
- 5.2. The code is then pulled from Perforce to the builder.
- 5.3. The builder creates and stores the requested code in its internal directory A, which is then copied to its internal directory B.
- 5.4. The code is then compiled in directory B and identified with a timestamp.

6. The compiled code is delivered to the filer (filerx).

- 6.1. The contents of directory A are also delivered to the filer as part of the build log.
- 6.2. After delivering the code, the builder erases the contents from directory B.

7. The builder notifies the database that the job has been completed.

- 7.1. The database reclassifies the job request as complete.
- 7.2. The builder resumes polling the database for the next available job.
- 7.3. The requestor is notified the request has been fulfilled.

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