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Programming Environment Release Mechanisms

In the past few months, there have been several changes to the way Programming Environments (PE) are released, how they are installed and what they look like.

BACKGROUND

Today, there are four Cray Programming Environments:

- Cray C++ Programming Environment
- Cray C++ PE for SV1
- CF90 Programming Environment
- CF90 PE for SV1

The latest PE, 3.5 for both FORTRAN and C++, are released for SV1 and T3E only and contain these components:

- C++ or FORTRAN compiler
- CrayTools
- CrayLibs
- CrayLibs_archive

Each component of the PE is independently updated from the major release. For instance, 3.5.0.1 CrayLibs might be the latest library set, but 3.5.0.8 the latest C++ compiler. If there are problem fixes for this compiler, we release a new one and increment the version number to 3.5.0.9—and call it an update.

A major release product is one whose version number ends in “0.0”, for instance 3.5.0.0 CrayTools, in a PE called 3.5. A major release has a longer testing cycle than an update because features are added and tested in the process. Also, in a major release all PE components are tested and released together.

In an update release, the same set of tests is run as for a major release, about 10,000 for each compiler, but we test a smaller added set of mods. PE components are released independently for an update.

Since 1998, we have released five major PE’s each for C++ and CF90. Counting major and update releases for the last three years, we released a new version of each compiler and library set about every two months.

CHANGES IN THE ORDERING PROCESS

The software ordering page URL is still

www.crinform.cray.com/cgi-bin/crinform/cringate/order_software, but the listing and selections are different. Selecting “Major and Revision Releases” from the CRInform Software Order page is still the path to CDROM and printed document order. The changes are in the other new option, “Latest Async Product Releases.”

When you select a hardware platform and serial number from this page, the resulting product grid contains all the latest versions of products that are licensed to the serial number you chose. From the generated grid, you will see the latest product information, sprs closed in this release, any new installation instructions and instructions for ftp download. You can also download from the product download file link on the page. A choice also exists to order individual parts of each PE.

The only updates available are those in active development or in active maintenance. Each major or update release, both available here, is a complete replacement product and not a patch or delta version. It is no longer necessary to install a base compiler, for instance, and then to over-install the latest updates. We no longer care what version you are currently running—only what version you want to install.

CHANGES IN INSTALLATION

With the latest updates, every product that arrives at your site is a whole, standalone component. There is no content difference between a product downloaded and one read from CDROM.

Products on CD are installed using CIT (Cray Install Tool) and now take advantage of the CIT cluster install feature to allow installation to occur in parallel across a cluster. Products on CD can also use the product install script, `/opt/ctl/admin/bin/opt_install`, just as you would install a downloaded file. After copying just the product file, always called “`async.cpio`” from CDROM to the Cray machine, the product is installed by invoking the script.

Product download files do not exceed 35 Mb. CrayTools used to weigh in at about 120Mb and was a challenge to most download connections. By removing a few redundant files and using better compression, it is a dainty 30Mb.

There is no longer any dependency on installing a major product version, like 3.5.0.0 or 4.0.0.0, as a base product version under the subsequent update versions. If you have 3.4.0.4 installed, just download the latest CF90, 3.5.0.1, and install it. There may be a requirement to run this new compiler with the latest CrayLibs, but this does not affect the install sequence.

LOOK OF THE PE

In the latest major release, the CrayTools_archive was added as a separately orderable product. The CrayTools that is in active release and is part of the PE, now supports a smaller product set. The archive product is meant to keep tools available that are no longer supported, but which may be useful to the PE user.

A LOOK FORWARD

In the next major release, we will revert to the two PE scheme of old, by folding the CF90_SV1 and C++_SV1 compilers back into the same PE. In other words the same PE will support both SV1 and T3E.

We are in the process of creating the C++ and Fortran Programming Environments for the SV2 PE. We do plan to support a modules environment, allowing sites to switch between compilers and library sets as they have in the past.