
Using RDIST in an ADE

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BESSY II

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Since the production system tends to have a demand for high reliability, all major labs using EPICS have been using different file areas (or computers or networks) for development and production systems. BESSY utilizes the rdist tool to distribute binaries and EPICS databases to the different production areas for in-situ testing and production.

Network Topology at BESSY

The development system and the different production systems for machine controls, experimental controls and optical diagnostics are on different networks which are connected (i.e. separated) by a router. Each area has separate file servers, workstations and IOCs.

The RDIST Tool

RDIST is a public domain tool developed at Berkeley / USC. It is based on the remote shell services (rsh/remsh/ssh) and is able to distribute single files or sets of files to an arbitrary number of hosts.

It is highly configurable, which includes keeping (a configurable number of) backup versions, pre- and post-processing when distributing files, logging all transactions and notifying people by mail when files have been distributed. Different distribution jobs may be defined with different configuration in a so-called Distfile (comparable to different targets in a Makefile).

Transfers to multiple host are processed in a concurrent way which saves time.

Usage in the EPICS ADE

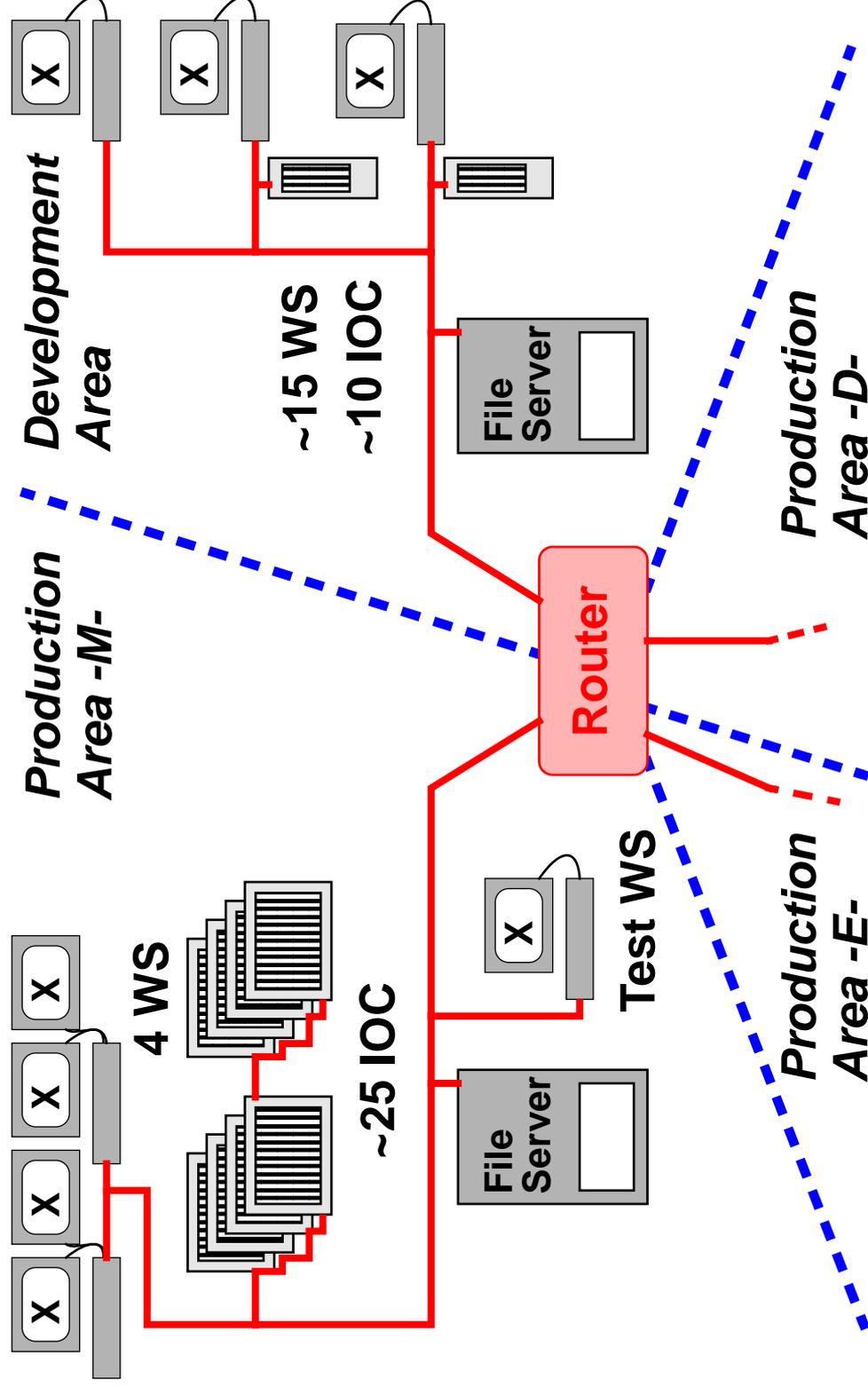
A few Make rule files and some add-on scripts have been designed that implement rules to distribute binaries and databases from the TOP level of an EPICS Application Development Environment. There are reasonable defaults for which files to distribute, which may be overridden by setting variables in the Makefile or using environment variables.

The boot hosts in the different production areas have a special account defined with its login disabled, so that access is controlled only with the .rhosts files. Only the special account has write access to the production files. So only developers that are mentioned in the .rhosts file of the special user are allowed to distribute files to this boot host in the production area.

Using RDIST in an ADE

- *Why?* Network Topology at BESSY
- *RDIST?* The RDIST Tool
- *How?* Usage in the EPICS Application Development Environment

Network Topology at BESSY



The RDIST Tool

- Public Domain Tool from Berkeley / USC
- Based on Remote Shell (rsh/remsh) Services
- Distributes Files and Filesets
- Highly Configurable (incl. Pre- and Post-Processing, Backup Versions)
- Concurrent Distribution to Multiple Hosts

Usage in the EPICS ADE

- Rules and config add-ons define additional make targets on TOP level with reasonable defaults for which files to distribute to which hosts. User may override through Makefile or environment.
- Production system boot hosts have a special account with disabled login (.rhosts file controls access).
- Only developers with access to the special account may distribute to the production area.