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ARC gridftp (Classic SE) Product Team

Product


The ARC Classic Storage Element (SE) implements GridFTP server with virtual file system back-ends. The ARC Classic SE consists of following components:

- gridftpd - standalone daemon and framework for pluggable back-end
- File plugin for accessing POSIX file system
- GACL plugin for storing and accessing local file system with per-file access control based on X.509 identity if the client and access policy expressed in GACL language
- In cooperation with ARC CE PT job management plugin is provided

The ARC Classic SE belongs to Data Technical Area

Service Reference Card

- Functional description: Provision of simple GridFTP based storage service
- Daemons running:
 - ◆ gridftpd
- Init scripts and options (start|stop|restart|...):
 - ◆ gridftpd - starts gridftpd daemon
- Configuration files location with example or template:
 - ◆ /etc/arc.conf - default location of configuration file
 - ◆ /usr/share/arc/examples/arc.conf.reference - Explanation and examples of configuration options
- Logfile locations (and management) and other useful audit information:
 - ◆ /var/log/arc/gridftpd.log - default location of log file of gridftpd daemon
- Open ports:
 - ◆ GridFTP communication (gridftpd daemon) - listening on 2811 TCP, listening on range of TCP ports for data communication (configurable in configuration file), outgoing TCP connections from arbitrary ports.
- Possible unit test of the service: (not unit tests, but service functionality tests):
 - ◆ no specialized testing tools developed
 - ◆ Any GridFTP capable client can be used to access and modify served content.
- Where is service state held (and can it be rebuilt):
 - ◆ Service is stateless.
 - ◆ Content of served files is stored on filesystem. Their persistency is handled by filesystem itself.
- Cron jobs:
 - ◆ none
- Security information
 - ◆ Access control Mechanism description (authentication & authorization): GSIFTP, TLS, VOMS, LCAS/LCMAPS, GACL
 - ◇ Authentication is based on Subject Name of client's X.509 certificate and other attributes of credentials
 - ◇ Authentication mapping (from Grid identity to local identity) happens through various options:
 - grid-mapfile
 - embedded configurable algorithms
 - LCMAPS
 - external generic executables

- ◇ Authorization happens through various options:
 - grid-mapfile
 - embedded configurable algorithms
 - LCAS
 - external generic executables
- ◆ How to block/ban a user:
 - ◇ Revoke user's certificate
 - ◇ Exclude user from grid-mapfile by changing configuration of nordugridmap
 - ◇ Changing configuration of gridftpd/a-rex to exclude specific user. Alternatively configuration can be crafted in a way to allow adding banned users to some local list dynamically
 - ◇ Through external plugin - LCAS or generic one
- ◆ Network Usage: multiple incoming and outgoing connections, see section "Open ports"
- ◆ Firewall configuration: see section "Open ports". Support for NAT based firewalls.
- ◆ Security recommendations: be careful; as much as possible deploy services as a non-privileged user
- ◆ Security incompatibilities: undefined
- ◆ List of externals (packages are NOT maintained by Red Hat):
 - ◇ none
- ◆ Other security relevant comments: see documentation
- Utility scripts:
 - ◆ none
- Location of reference documentation for users: not applicable
- Location of reference documentation for administrators: <http://www.nordugrid.org/documents> 

Members

- **UiO:** Aleksandr Konstantinov (PT leader)

Release notes for EMI-1

Enhancements introduced since October 2010

- * Removed code providing duplicate functionality and replaced with HED one

Problems fixed since October 2010

- * Numerous code fixes to comply with more strict compilers
- * Information about root of virtual file system was not reported properly
- * Fixing code to work on non-Linux systems
- * Fix for building without GACL
- * Fixes for startup script to fit Fedora

Known problems

None so far

Installation

ARC Classic SE (gridftpd) is installed as part of ARC Software installation procedure with package name `nordugrid-arc-gridftpd`

Configuration

ARC Classic SE (gridftpd) configuration is explained in documents found at <http://www.nordugrid.org/documents/>. Examples and configuration reference can be found at `/usr/share/arc/examples/arc.conf.reference`

-- AleksandrKonstantinov - 18-Feb-2011

This topic: EMI > ARCClassicSE
Topic revision: r7 - 2013-04-01 - OxanaSmirnova



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