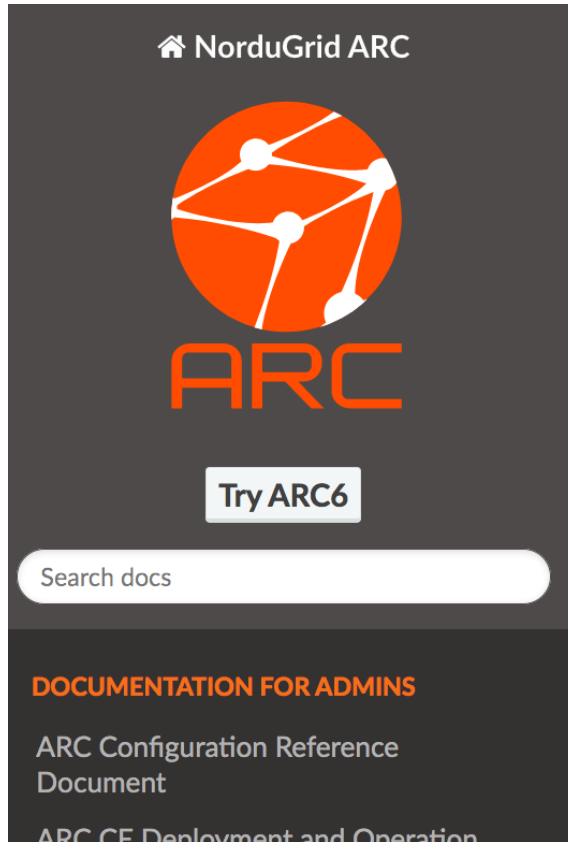


ARC Release and development plan


Maiken Pedersen

Pre-GDB meeting 19.11.2019

ARC development focus last years



NorduGrid ARC



ARC

Try ARC6

Search docs

DOCUMENTATION FOR ADMINS

- ARC Configuration Reference Document
- ARC CE Deployment and Operation

[Docs](#) » Welcome to ARC Version 6!

[Edit on GitLab](#)

Welcome to ARC Version 6!

The *Advanced Resource Connector (ARC)* middleware, developed by the [NorduGrid Collaboration](#), is an open source software solution enabling e-Science computing infrastructures with emphasis on processing of large data volumes. ARC is being used to enable national and international e-infrastructures since its first release in 2002.

This document is dedicated to the ARC Version 6 collecting all relevant information in one place. You should be able to find information regarding the code, documentation, testing activities, support channels, ... and so on here. The information is refreshed daily, a snapshot of the development version can be found [here](#).

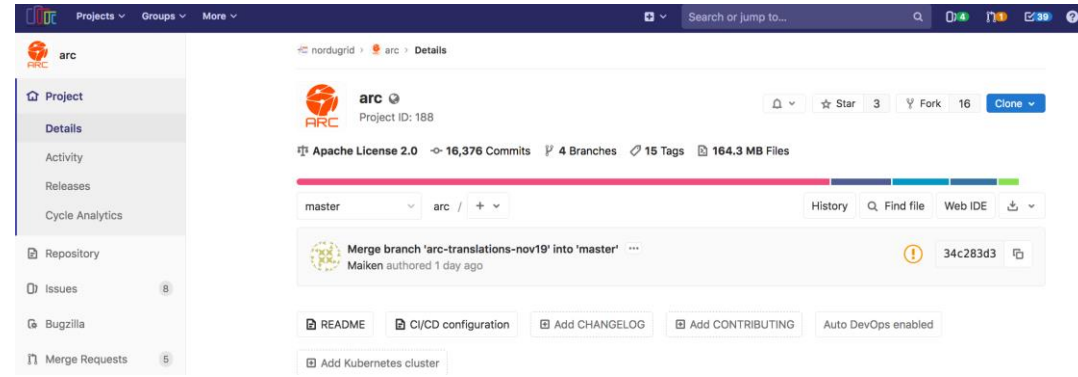
If you are new to ARC start reading the [Try ARC6](#) quickstart guide to get an overview of main operations in the simple test case.

Release strategy

- Scheduled ~bi-monthly releases
- All commits except backward incompatible changes are committed directly to master
- No clear distinction between a bugfix and minor release (change to previous)
 - We inform in the release notes when there are changes other than trivial bugfixes
 - All scheduled releases are numbered X.Y.0 (e.g. 6.4.0)
- If an emergency/express release is necessary due to an important security patch or a blocker bug – release is numbered X.Y.Z where Z != 0 (e.g. 6.4.1)
- No “golden release” → no patching of earlier releases (except security patches of last major release, see later)
- Backward incompatible changes are released in a major release (e.g. 7.0.0)
 - Major releases occur between 1-3 years
- Only nordugrid-arc released with an ARC release – no more release bundle (no docs, nagios, gangliarc)
 - → Release name changed from year.month.u.# to ARC 6.0.0
 - ARC nagios plugin still present in nordugrid repo, but follows its own release cycle, maintained by Petter Urkedal (NBI).
<https://source.coderefinery.org/nordugrid/arc-nagios-plugins>
- http://www.nordugrid.org/arc/arc6/misc/release_management.html
- History of releases:
<http://www.nordugrid.org/arc/releases/>

ARC on GitLab and GitHub

- <https://source.coderefinery.org/nordugrid/arc>
 - Mirrored at <https://github.com/nordugrid/arc>
- Set up with GitLab CI for build, deploy, test for most important platforms
- Nightly builds for all supported platforms on <http://download.nordugrid.org/builds/index.php?pkgname=nordugrid-arc&type=master>
- Getting the packages
 - Nordugrid repository: <http://download.nordugrid.org/repos/6/>
 - Debian, EPEL
 - UMD (EGI software repo - Unified Middleware Distribution) release: https://wiki.egi.eu/wiki/UMD_Release_Schedule



ARC 5 support policy

- No new feature development will be made for ARC5
- No bug-fixing development will happen on ARC5 code base in the future except for security fixes
- Security fixes for ARC5 will be provided till end of June 2020.
- Production sites already running ARC 5 will be able to get deployment and configuration troubleshooting help via GGUS until end June 2021 - "operational site support».
- ARC5 is available in EPEL7 and will stay there. EPEL8 will only contain ARC 6. (ARC 6 co-exists with ARC 5 in EPEL7 under the name nordugrid-arc6)

source: [arc1 / trunk](#)

Name ▲	Size	Rev	Age	Author
.. /				
▶ debian		33580	15 months	/DC=org/DC=terena/DC=tcs/C=SE/O=Upp
▶ include		32785	2 years	/DC=org/DC=terena/DC=tcs/C=SE/O=Upp
▶ java		32748	2 years	/DC=org/DC=terena/DC=tcs/C=DK/O=Kob
▶ m4		27652	7 years	/O=Grid/O=NorduGrid/OU=nbi.dk/CN=And
▶ nsis		29179	5 years	/O=Grid/O=NorduGrid/OU=nbi.dk/CN=And
▶ po		33681	8 months	/DC=org/DC=terena/DC=tcs/C=SE/O=Lun
▶ python		33659	9 months	/DC=org/DC=terena/DC=tcs/C=NO/O=Uni
▶ selinux		21262	9 years	/DC=org/DC=terena/DC=tcs/C=SE/O=Upp
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▶ swig		32748	2 years	/DC=org/DC=terena/DC=tcs/C=DK/O=Kob
.svnignore	273 bytes	33459	23 months	/DC=org/DC=terena/DC=tcs/C=NO/O=Uni

Ongoing developments - ARC 6.x

Current focus: completing the last parts of ARC 6 roadmap

New roadmap to be prepared in the following months

Ongoing development

- Improvements on the CLI subsystem (e.g. review of the cli options)
- Packaging improvements (localizing dependencies into separate packages)
- Standalone arcctl
- Extending the flexible injection and managing capability of Archery-manage
 - Increase sys-admin friendliness
- RESTful interface
 - Documented <http://www.nordugrid.org/arc/arc6/tech/rest/rest.html>
 - Simplification of WS interfaces - skips all SOAP related things , HTTP based REST
 - Can be used with simple clients based on something like curl for example
 - Easy to integrate into third-party clients which do not want to adopt ARC library
 - Technical preview available as of 6.0.0 - work ongoing to finalize for regular release
- ARC metrics
 - Implement missing DTR metrics in integrated arex-ganglia
 - Provide metrics in json format not depending on ganglia, to be consumed by e.g. Prometheus
- Running jobs in containers via RTE's
 - Docker for HTCondor
 - Singularity containers

Longer-term development for ARC 7

Following the technological development

- Support of token-based security layer
- Going towards container orchestrators
 - So far via RTE's – jobs can be run in docker or singularity containers
 - We support docker for htcondor
 - Singularity
- NEW ARC deployment mechanisms: ARC installation via containers
- DATA subsystem scalability improvements
- Controldir scalability improvement
- ARC DATA Service, a sort of DDS2 that can perform data transfers independently of jobs.
 - Modularize the already existing Data Delivery Component as a generic ARC Data service
 - Authorization security layer - token based

- LRMS-less ARC: an ARC CE that can be deployed directly on top of set of dedicated resources
- Autonomous ARC?



Volvo 360c - Autonomous

Always ongoing: improving code-base for scalability and stability

Conclusion

- Large milestone ARC 6 reached summer 2019
 - ARC codebase moved to GitLab with all its nice tools for CI and testing
 - New ARC 6 documentation online
- Finalizing ARC 6 roadmap
- New roadmap details to be carved out
- Keep improving ARC and developing for new technologies
 - new authentication methods
 - containerization,
 - New mode with. batch-system-less ARC