

# Status & Strategy for gLite multi-platform Support

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***Meeting:** PMB – All Activity Meeting*  
***Location:** Sofia, Bulgaria*  
***Date:** 9-12pm, 22<sup>nd</sup> January 2008*

## Builds using ETICS version: 1.2.1-1

Worker Node Build Status														
ARCH	OS TYPE	VERSION	DISTRO	VDT	deps	GridIre	Basic	VOMS	RGMA	DM	gfal	WN	Full	torque
ia32	CentOS	4	yum	3/3	30/30	2/2	9/9	14/14	45/45	17/17	20/20	108/108	344/374	3/3
	SuSE	9	apt	3/3	28/28	2/2	14/14	15/15	45/45	17/17	20/20	106/106	312/365	3/3
	CentOS	5	yum	1/1	24/24	2/2	9/9	10/15	24/45	0/17	0/19	63/99	226/368	3/3
	Solaris	10	pkg/tarball	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
x86_64	CentOS	4	yum	1/1	5/16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SuSE	9	apt	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
powerpc	Mac OS X	10.4	fink/tarball	2/2	17/23	N/A	8/9	1/15	36/46	0/17	11/29	42/61	182/361	N/A
	Mac OS X	10.3	fink/tarball	2/2	18/23	N/A	8/9	1/15	36/46	0/17	11/29	44/62	186/354	N/A
	AIX	5	rpm/tarball	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Legend	Colour					
	Meaning	To be Started	Started	DONE	Vendor Built	Not Possible

## Builds using ETICS version: 1.3.1-1

Worker Node Build Status														
ARCH	OS TYPE	VERSION	DISTRO	VDT	deps	GridIre	Basic	VOMS	RGMA	DM	gfal	WN	Full	torque
ia32	CentOS	4	yum	3/3	30/30	2/2	12/12	14/14	45/45	17/17	20/20	108/108	343/379	3/3
	SuSE	9	apt	3/3	28/28	2/2	12/12	14/14	45/45	17/17	20/20	106/106	313/374	3/3
	CentOS	5	yum	1/1	24/24	2/2	9/9	14/14	3/40	0/17	0/19	63/99	234/378	3/3
	Solaris	10	pkg/tarball	1/1	23/23	2/2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3/3
x86_64	CentOS	4	yum	1/1	26/26	2/2	9/9	15/15	34/45	12/17	N/A	66/105	N/A	3/3
	SLES	9	apt	1/1	24/24	1/1	9/9	10/15	N/A	N/A	N/A	N/A	239/375	3/3
powerpc	Mac OS X	10.4	fink/tarball	1/1	23/23	1/1	0/11	1/15	36/46	0/17	11/29	42/61	169/369	3/3
	Mac OS X	10.3	fink/tarball	1/1	23/23	1/1	0/11	1/15	36/46	0/17	11/29	44/62	173/369	3/3
	AIX	5	rpm/tarball	1/1	18/22	1/1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3/3

Legend	Colour					
	Meaning	To be Started	Started	DONE	Vendor Built	Not Possible

ETICS is now platform independent!

## Builds using ETICS version: 1.3.2-1

Worker Node Build Status														
ARCH	OS TYPE	VERSION	DISTRO	VDI	deps	GridIre	Basic	RGMA	VOMS	DM	gfal	WN	Full	torque
ia32	CentOS	4	yum	3/3	30/30	2/2	12/12	41/41	14/14	17/17	20/20	108/108	343/379	3/3
	SuSE	9	apt	3/3	28/28	2/2	12/12	41/41	14/14	17/17	20/20	106/106	313/374	3/3
	CentOS	5	yum	1/1	24/24	2/2	9/9	41/41	14/14	16/17	13/21	63/99	234/378	3/3
	Solaris	10	pkg/tarball	1/1	23/23	2/2	0/11	14/42	0/11	7/17	7/20	N/A	N/A	3/3
x86_64	CentOS	4	yum	1/1	25/26	2/2	9/9	41/41	15/15	18/18	19/21	66/105	0/1	3/3
	SLES	9	apt	1/1	24/24	1/1	9/9	24/41	10/15	11/18	N/A	N/A	239/375	3/3
powerpc	Mac OS X	10.4	fink/tarball	1/1	23/23	1/1	0/11	13/27	1/15	0/17	11/29	42/61	179/372	3/3
	Mac OS X	10.3	fink/tarball	1/1	23/23	1/1	0/11	13/27	1/15	0/17	11/29	44/62	183/374	3/3
	AIX	5	rpm/tarball	1/1	21/21	1/1	0/11	0/6	0/4	7/17	7/20	N/A	N/A	3/3

Legend	Colour			
	Meaning	To be Started	Started	DONE

ETICS is now platform independent!

Two working repositories (ignore sl3):

<http://grid.ie/distribution/glite/R3.1/glite-WN/suse9>

<http://grid.ie/distribution/glite/R3.1/glite-WN/centos4>

Also available Torque clients:

[glite/R3.1/glite-TORQUE\\_client/suse9](#)

[glite/R3.1/glite-TORQUE\\_client/centos4](#)

These are constantly upgraded, currently version: 3.1.0-6

## Package Name and Version

## Reason for RPM changes

boost|1.32.0-6

CGSI\_gSOAP\_2.6|1.1.15-6

glite-data-catalog-api-c|2.0.0-7

glite-data-catalog-cli|1.7.4-1

glite-data-srm-api-c|1.1.0-9

glite-data-srm-api-perl|1.1.0-3

glite-data-srm-cli|1.2.8-5

glite-data-transfer-api-c|3.3.0-4

glite-data-transfer-api-perl|3.3.0-1

glite-data-transfer-cli|3.4.2-2

glite-data-delegation-cli|2.0.0-4

glite-data-delegation-api-c|2.0.0-4

glite-data-util-c|1.2.3-1

glite-lb-client|2.3.4-1

glite-lb-common|5.1.2-2

glite-wms-common|3.1.17-1

perl-SOAP-Lite|0.65.6-1

Boost not available in OS

dm-util requires this, whereas srm/transfer require 2.7

glite packager: Missing ext.axis.version

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Needed by newer glite-data-transfer-cli

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glite packager: Missing ext.axis.version

Needs glite-lb-common (newer version)

Missing a -p in mkdir \${REPORTS}

3.1.13 configuration is missing

Use /usr/bin/env for portability

## Debian x86\_64 (PSNC, Poland)

- Dependency are being generated but not debs packages.
- Building tarballs only for the moment.
- ETICS Client version 1.3.2-1 must be used to obtain --ignorelocking with --merge and --nocache.

## Ubuntu 7 (HPCN, Sweden)

- Åke (Ubuntu port) has built 85% of the gLite middleware but has not tested it.
- Åke wants to see personalised views of the web interface which we suggested at EGEE '07.
- Work will continue on this in March 2008.

## Use the porting guide:

<https://twiki.cern.ch/twiki/bin/view/EGEE/EGEEPortingGuide>

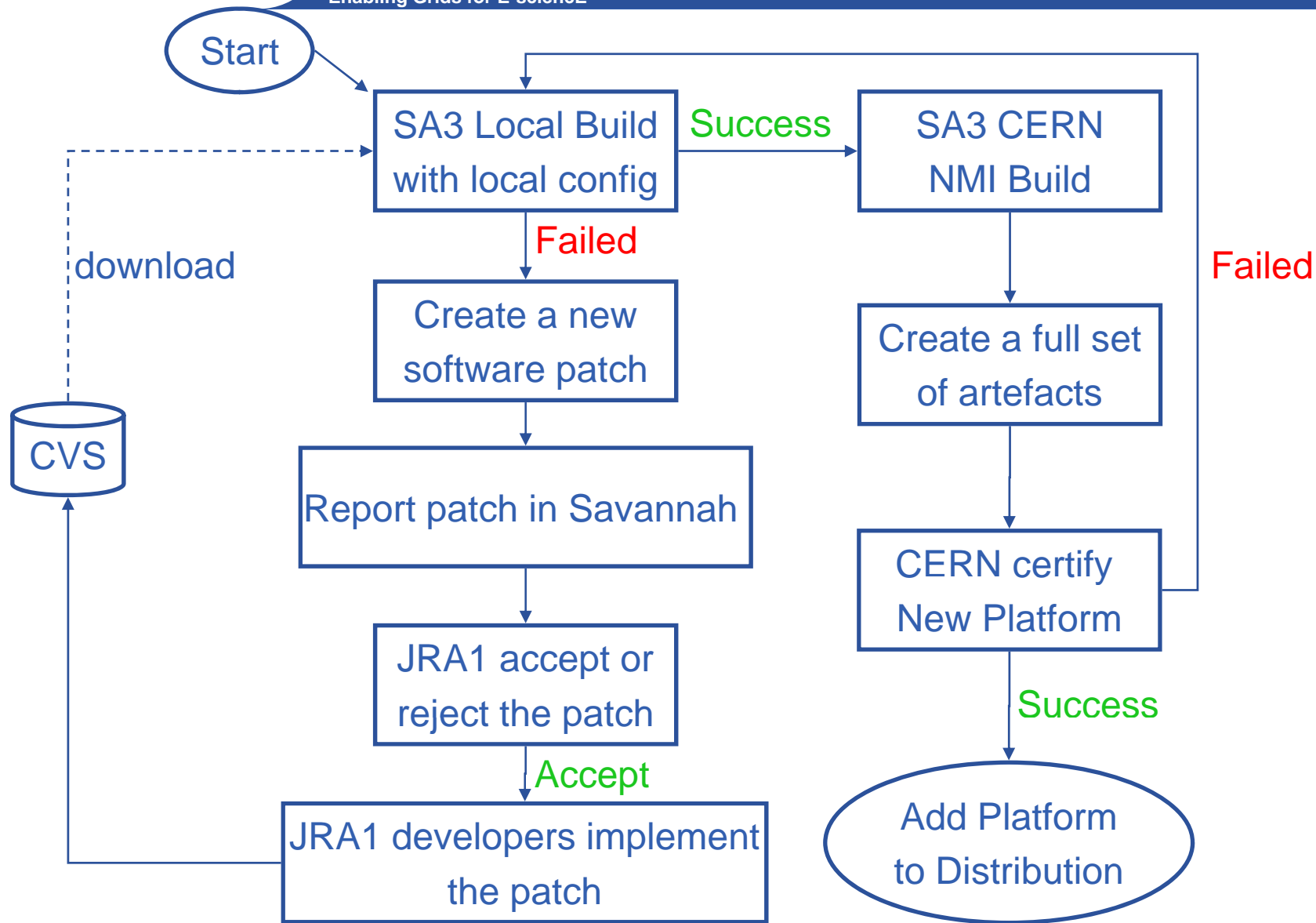
## 10 step guide covering building of:

- ETICS, globus, dependencies, Base Modules, RGMA, VOMS, DM/GFAL and the WN meta-package

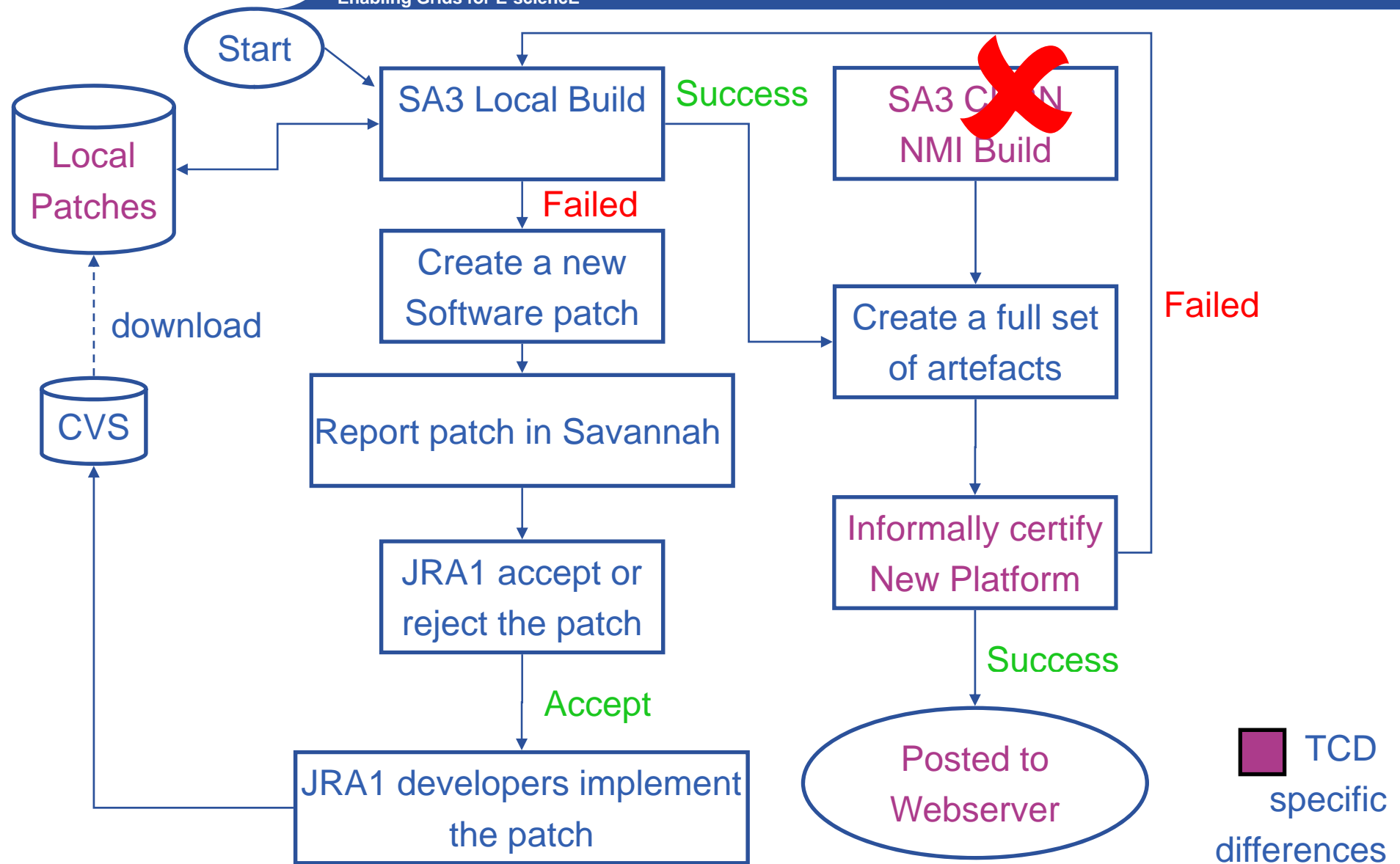


- **Multi-platform Building Infrastructure**
  - Controlled distributed structure
  - Scalable (with Condor?)
  - Sustainable (many platforms)
- **Multi-platform Patching Lifecycle**
  - Fast
  - Efficient
  - Reproducible
- **Multi-platform Certification Infrastructure**
  - Sustainable (Yaim + package management issues)
  - Reliable (who does the certification?)

# Simplified Possible Lifecycle of a Build

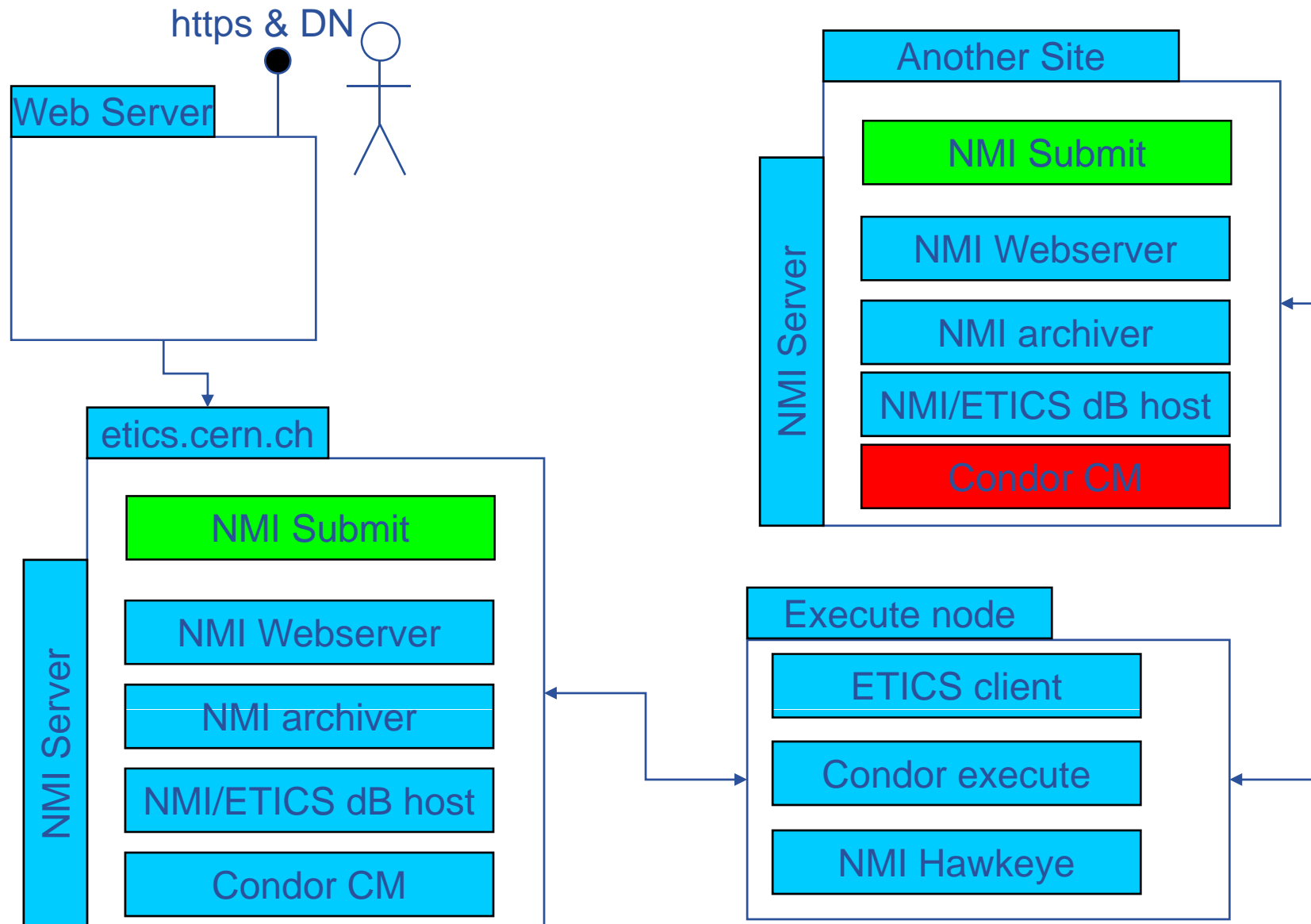


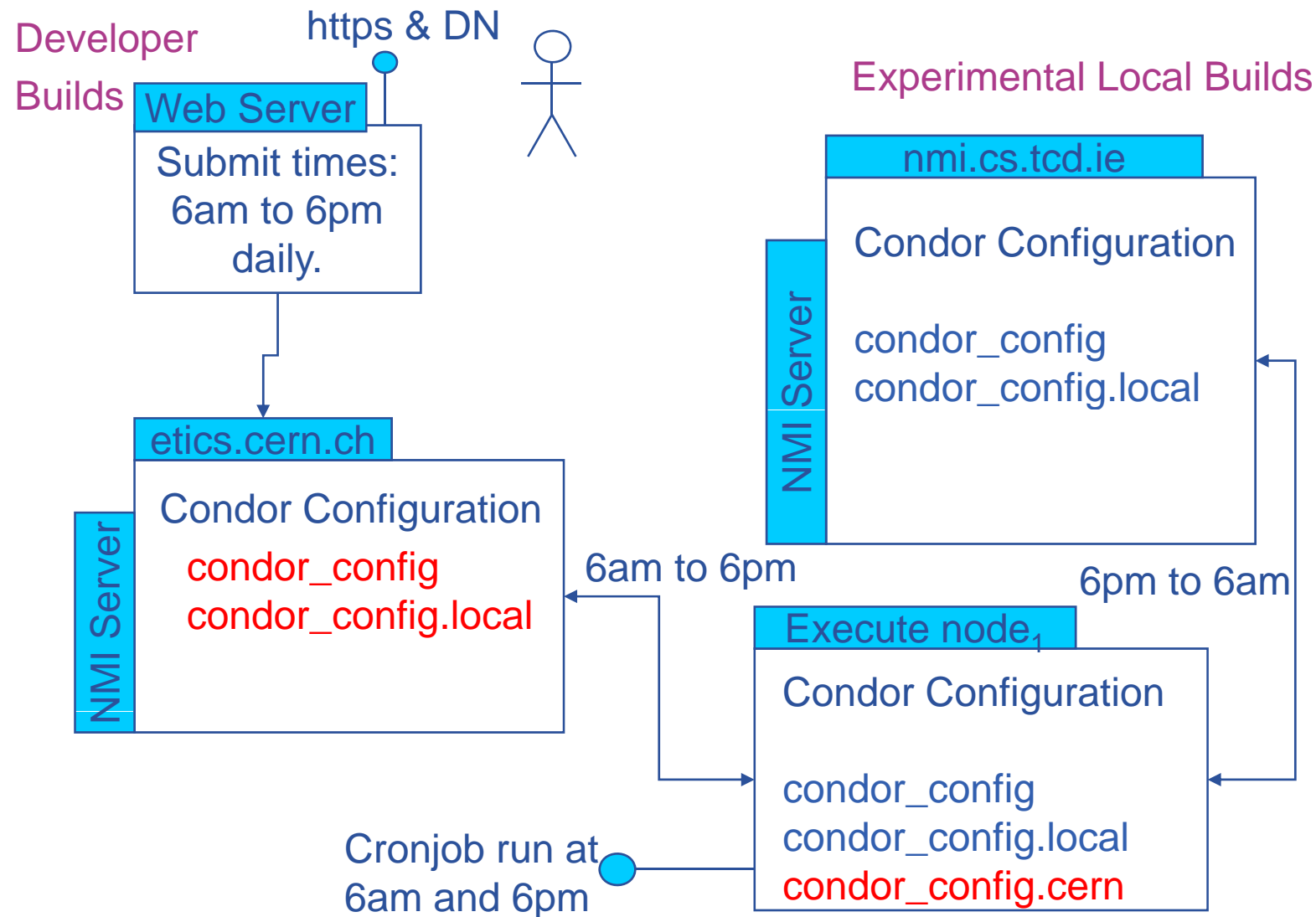
# Current TCD Local Build Lifecycle



# Questions to Consider

- How do we speed up the patching process?
- How do local sites allow experimental local builds and CERN NMI builds on the one machine?
- Who will certify the new platform? CERN or the local site?
- Who does the Yaim development?
- If the patching process and certification process are long, how do you ever get the new platform into step with the supported JRA1 platforms?



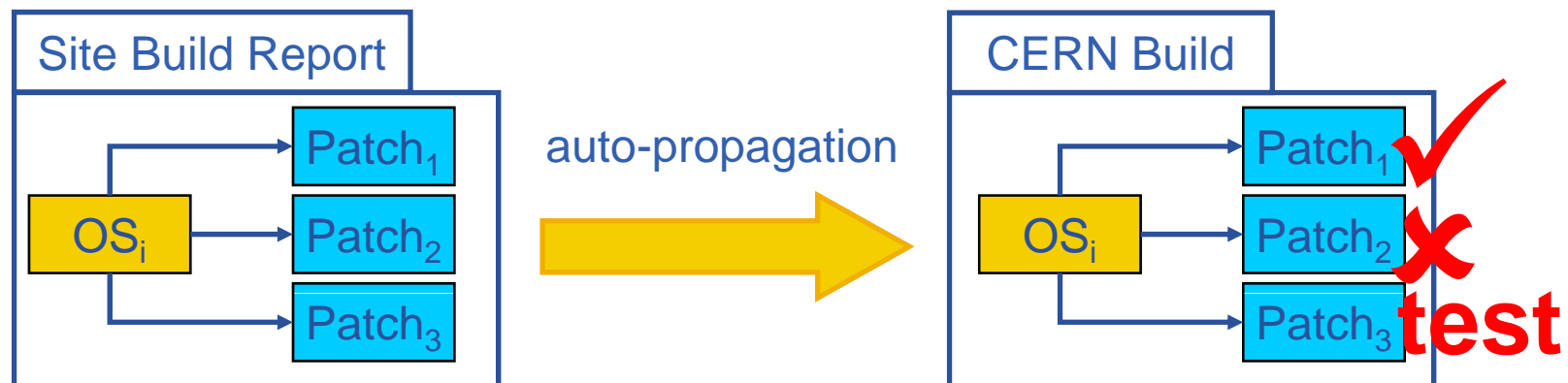


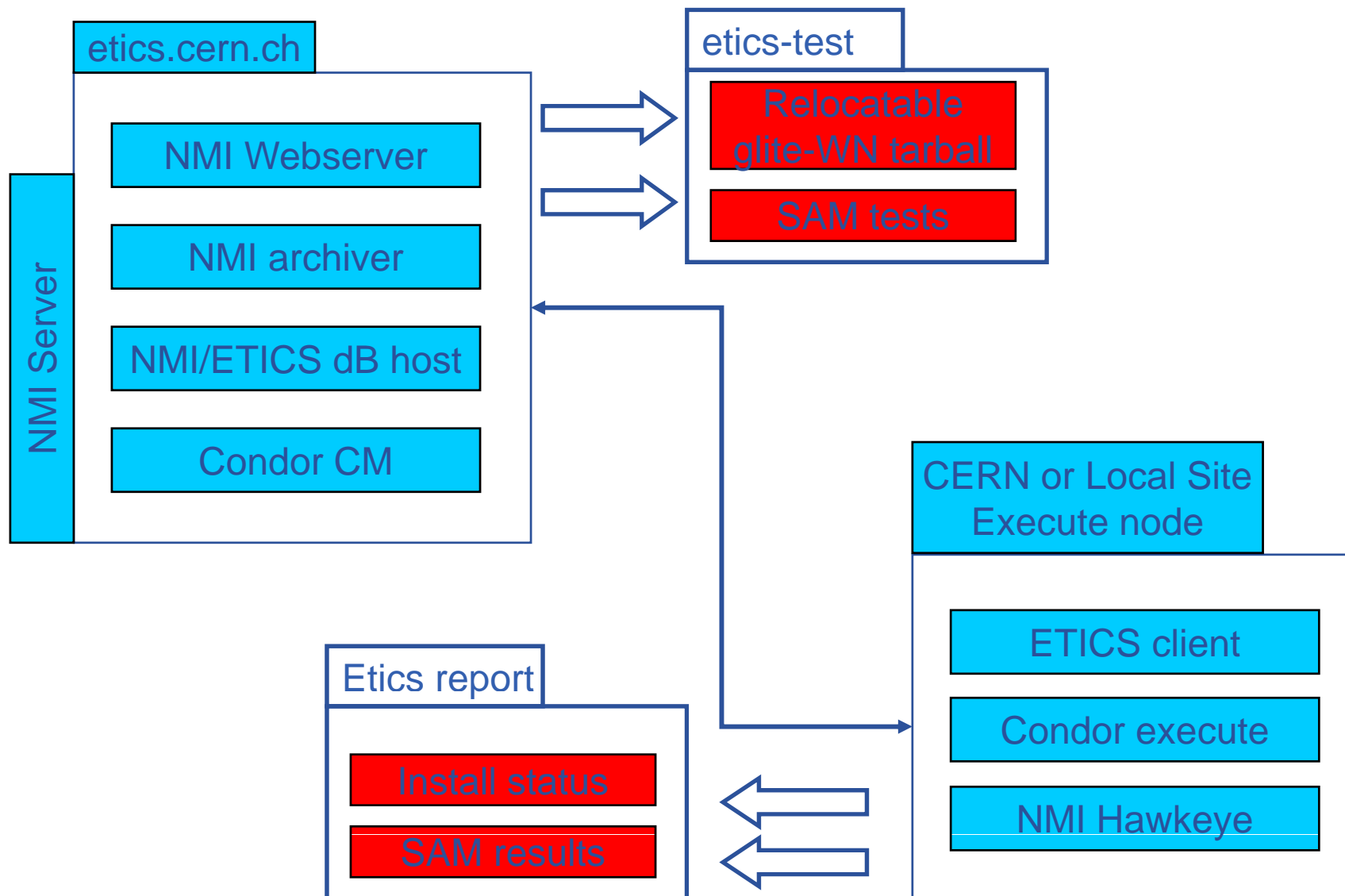
- Multiple Condor Managers could be an issue.
- Resources controlled by CERN (CERN-centric view), all logging recorded in CERNs central manager.
- Condor was designed for local open networks.
- Complicated firewall rules and NATed sites should be provided while retaining robustness and scalability.
- Solving the above issues is solving a problem already solved by the Grid!

- Eventually with the introduction of NGIs we need open-source code that is easy to build by anyone.
- We need to respect the security restrictions of a site.
- Condor allows for heterogeneous job submit. NMI provides the hooks for Condor. Putting the Grid in the middle could be a good move.



- Each system introduces more configuration & packaging for the developers.
- Yaim needs to be partially rewritten for each OS (possibly).
- Patches from other sites needs to be automatically reported to the developers and be reproducible.
- A good reporting mechanism needs to be in place for managing the inclusion of these patches. Savannah isn't great for tracking such issues.





# Conclusions and Future Work

- Debian is the top priority at the moment.
- ETICS is stabilising, going towards user porting views.
- Helping PSNC with Debian x86\_64 will automatically help Debian x86 at CERN.
- NMI testing starting at TCD.
- TCD will have CentOS 5.1 gLite-WN built soon. Will be deployed at one site in Ireland (most likely).
- (SA3 list → JRA1 subset build) generator is being designed by TCD for gLite-WNs. Needs some formal reasoning.
- A gLite-WN diff build will also be defined by TCD. This will analyse existing repositories to deduce the minimum subset to build.
- A stable non-intrusive ETICS/NMI infrastructure with automatic patch reporting, per platform user views and automatic certification processes will greatly help the effort in EGEE III and well on into the future.
- Eventually ETICS submit should be set up at local sites with a local ETICS dB/repository and some form of mirroring.