ManageTier3SW and ATLASLocalRootBase

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What is ATLASLocalRootBase?

ATLASLocalRootBase is a package of many softwares that's needed by a Tier3 including:

- DQ2 Client to locate and fetch data from the Grid
- C++ compiler compatible with ATLAS software
- Pacman for software installation
- Panda Client for grid job submission
- Wlcg Client for grid clients needed for Panda and DQ2
- ROOT : standalone recent root release
- Also provdes glite and Ganda support for non-US sites
- and local installation of Athena, Database releases (we will rely primarily on CVMFS for the T3g's however)

ATLASLocalRootBase assures the compatibility of the software

What is manageTier3SW?

- manageTier3SW installs and maintains ATLASLocalRootBase for Tier3's.

ManageTier3SW and ATLASLocalRootBase was developed in Canada and has been in use for some years. It is now being adopted as an ATLAS wide T3 standard.

Asoka Da Silva

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Installing and updating ALRB with manageT3SW

From the T3w setup Twiki

Running manageTier3SW

- Log into the atlasadmin account on an interactive node
- `svn co http://svnweb.cern.ch/guest/atcansupport/manageTier3SW/trunk userSupport/manageTier3SW`
- `cd ~/userSupport/manageTier3SW`
- `./updateManageTier3SW.sh --overrideConfig=US --installALRB=/export/share/atlas/`
- This will take a couple of hours depending on your network connections.

To update (in a cron job):

- ./updateManageTier3SW.sh –overrideConfig=US

ManageTier3SW – installation

desilva@atlas-tier3-c1:~/bin/userSupport/manageTier3SW — ⌘3

```
> ./updateManageTier3SW.sh --installALRB=~/ALRBTEST/myDemo
Updating manageTier3SW and creating links ...
Upgrading manageTier3SW to V00-01-92
cvs update: Updating .
cvs update: Updating patches
manageTier3SW update                                [  OK  ]

To use, "source /home/desilva/ALRBTEST/myDemo/ATLASLocalRootBase/user/snapshots/default-20100119.snapshot" after atlasLocalSetup.[c]sh.
Pacman successfully installed                       [  OK  ]
Installation of software completed                  [  OK  ]

To use, "source /home/desilva/ALRBTEST/myDemo/ATLASLocalRootBase/user/snapshots/default-20100119.snapshot" after atlasLocalSetup.[c]sh.
DQ2 Client successfully installed                   [  OK  ]

Python successfully installed                       [  OK  ]
Installation of software completed                  [  OK  ]

ROOT successfully installed                         [  OK  ]
Installation of software completed                  [  OK  ]

GLite successfully installed                        [  OK  ]
Installation of software completed                  [  OK  ]

PandaClient successfully installed                  [  OK  ]
Installation of software completed                  [  OK  ]

Installing gcc  gcc346_i686_slc4 ...
Installing Gcc gcc346_i686_slc4 i686
Sourcing Pacman                                     [  OK  ]
The installation directory /home/desilva/ALRBTEST/myDemo/ATLASLocalRootBase/i686/Gcc/gcc346_i686_slc4 will be created.
Snapshot saved as /home/desilva/ALRBTEST/myDemo/ATLASLocalRootBase/user/snapshots/default-20100119.snapshot.i686_slc4 found in KV...
To use, "source /home/desilva/ALRBTEST/myDemo/ATLASLocalRootBase/user/snapshots/default-20100119.snapshot" after atlasLocalSetup.[c]sh.
Gcc successfully installed                          [  OK  ]
Installation of software completed                  [  OK  ]

Checking that gLite tarball is ok ...

Python-i686 has been removed (replaced by python).       [  OK  ]

Old gcc cleanup /  migration completed.             [  OK  ]
desilva@atlas-tier3-c1:~/bin/userSupport/manageTier3SW
>
```

What happens ... tested Software

(Last updated: 20 Jan 2010 22:27:56)

Name	Recommended / Tested Version	Latest Version	CERN Default	Comments	Links	Release Notes
OS	SL 5				Instructions	SL Home
ATLASLocalRootBase	V00-04-54	V00-04-54			Instructions	Release Notes
DQ2Client	0.1.32	0.1.32	0.1.32		Instructions	CERN Notes
Ganga	5.4.4	5.4.4	5.4.4		Instructions	CERN Notes
gcc	gcc432_i686_slc5 gcc432_x86_64_slc5 gcc432_i686_slc4 gcc432_x86_64_slc4 gcc346_i686_slc4 gcc346_x86_64_slc4			32-bit on all platforms, 64-bit only on 64-bit OS.		
gLite	3.1.38-0	3.1.39-0	3.1.38-0		Instructions	CERN Notes
Pacman	3.29	3.29	3.29		Instructions	BU Notes
panda-client	0.2.8	0.2.8	0.2.8		Instructions	CERN Twiki Notes
root	5.18/00 5.22.00	? (dev) 5.24/00(pro)		only for use outside Athena	instructions	CERN Notes

Not installed by manageTier3SW

https://twiki.atlas-canada.ca/bin/view/AtlasCanada/Software_Versions

25 Jan 2010 Asoka De Silva, TRIUMF 7

Pre-release testing or interoperability

What happens … next

- Software is installed or updated.
- Patching, if required, is done:
  - eg. changes in gLite, migrations, etc.
- Nothing deleted; so versioning exists.
- Easy to delete software / reinstall.
- Can install on nfs export and share (visitors !).
- Athena installation / removal (not automatic):
  - Run application to check consistency / change,
  - Install: base, production or Tier0 caches,
  - Involves simple editing of text files …

For T3g, the baseline will be CVMFS—but local Athena versions can also be installed in ALRB

What does it mean for users ...

- ATLASLocalRootBase is installed:
  - These are wrappers and utility scripts,
  - If nfs exported, visitors can also access SW,
  - Users have to put these two lines in ~/.bashrc:

```
export ATLAS_LOCAL_ROOT_BASE=<path to ATLASLocalRootBase>

alias setupATLAS= \
  'source ${ATLAS_LOCAL_ROOT_BASE}/user/atlasLocalSetup.sh'
```

After login give the command
> setupATLAS

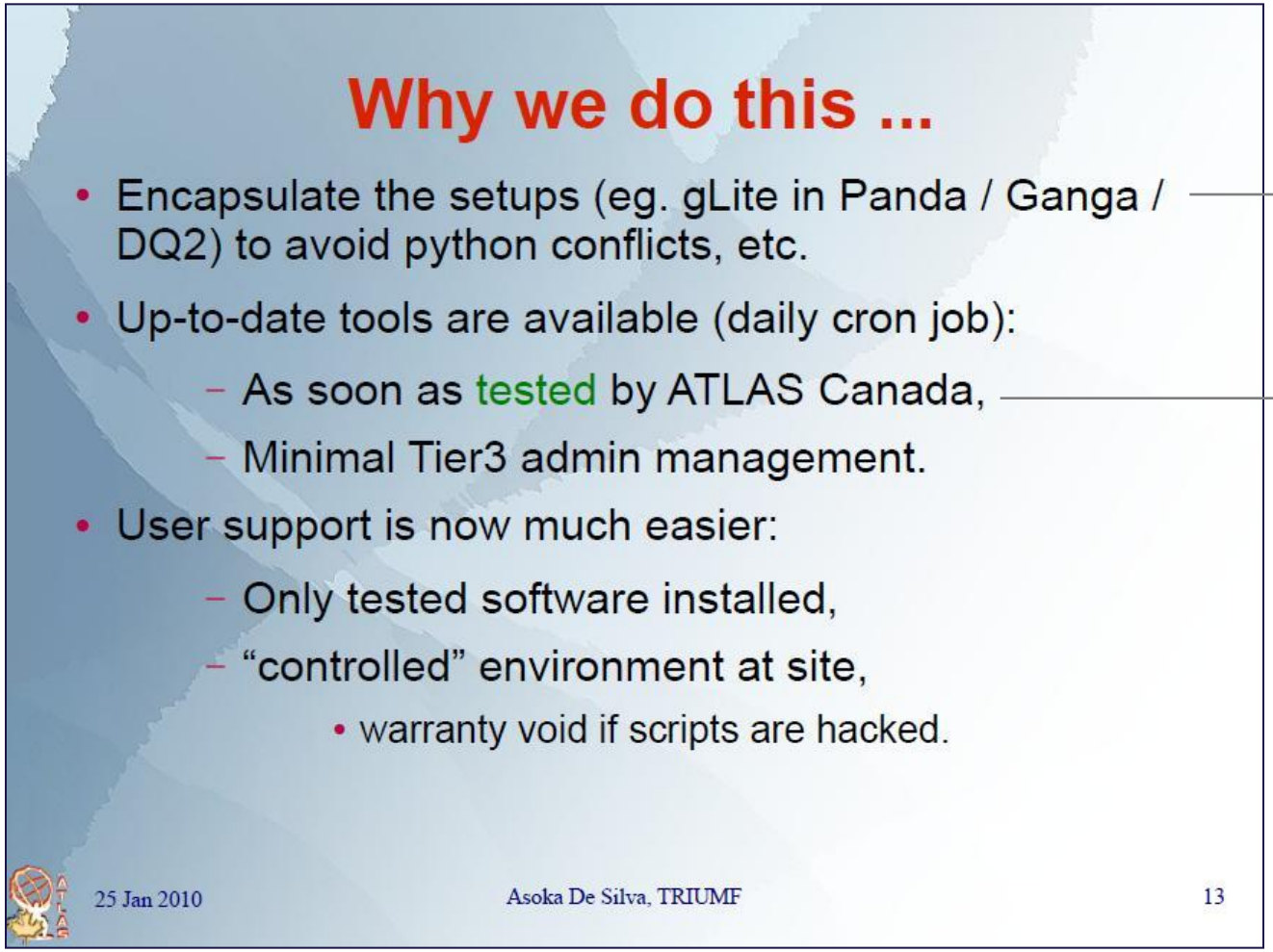
The user sees ...

```
desilva@atlas-tier3-c1:~ — ⌘3
> setupATLAS
...Type localSetupDQ2Client to use DQ2 Client
...Type localSetupGanga to use Ganga
...Type localSetupGcc to use alternate gcc
...Type localSetupGLite to use GLite
...Type localSetupPacman to use Pacman
...Type localSetupPandaClient to use Panda Client
...Type localSetupROOT to setup (standalone) ROOT
...Type saveSnapshot [--help] to save your settings
...Type showVersions to show versions of installed software
...Type createRequirements [--help] to create requirements/setup files
...Type runKV [--help] to test the kit or your desktop
desilva@atlas-tier3-c1:~
>
```

1. Environment is changed only when user types localSetup<tool> commands.
2. Above commands have options; see --help.

ManageTier3SW used:
- at CA Tier3 sites,
- on atlasVM,
- on CernVM,
- at Sussex (UK).

- Consistent look and feel for sites/platform/OS.
- No need to know which path to setup tools.
- No ~~AFS~~ setups to CERN.



OSG and VDT has worked with Asoka to integrate OSG supported Grid middleware

US, (as well as other ATLAS members) will participate in testing

Also gives the same analysis environment at T3g's.

Lessons from ALRB

- Everything needs to be tested together. (How many times have you seen a problem occur in anther package because of a seemingly unrelated update?)
- Central location to test→ then push out to all of the T3's.

Towards a T3g support model

- IF most T3g's are setup in a similar enough way,
- THEN we can do the following and save a lot of duplicated work.
  - All updates (not just ALRB but any significant update—OS, nfs patches, new versions,etc.) are first deployed at a single model site. This site can be the anlasc model cluster.
  - After deployment, a comprehensive test are run.
  - Resolve any significant problems encountered.
  - THEN and only THEN, the updates are pushed out to the T3g's.
- Our aim is to establish this kind of support for T3g's in the next months.