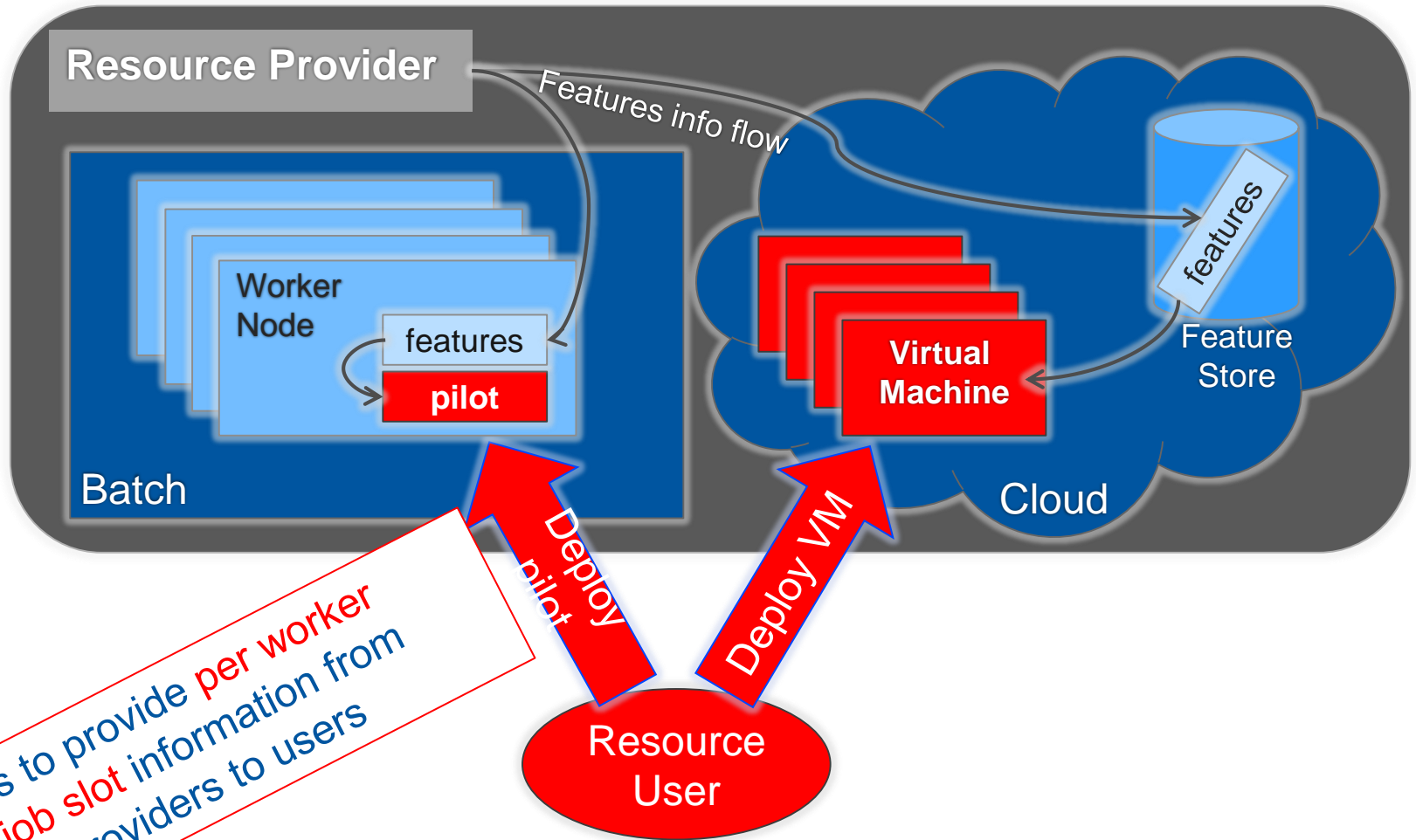


# Machine/Job Features Update

Stefan Roiser

# Machine/Job Features Recap



A means to provide **per worker node / job slot** information from resource providers to users

# Features and their Usage

- Machine Features: WN power, Shutdown time, # jobslots, # physical/logical cores
- Job Features: Limits on CPU/Wall time, scratch space and memory, # cores allocated, job start time
- What to use it for:
  - Discover specific limits on this WN
  - Calculate time left in queue
  - Announce shutdown of WN to users
  - ...

# Reference Implementations

Technology	Convener
Apache	Andrew McNab
HTCondor	Marian Zvada
LSF	Ulrich Schwickerath
SGE	Manfred Alef
Slurm	Ulf Tigerstedt
Torque/Pbs	Jan Just Keijser

# MJF Taskforce Scope

- ✓ Check the completeness of the proposal for machine/job features
- ✓ Coordinate implementations used in WLCG and an interface for its usage to the VOs
- ✓ Provide means to monitor the correctness of the provided information
- Plan and execute the deployment of those implementations at all WLCG resources

Note: Correctness checking of the provided feature values is NOT in the scope of this TF

# MJF SAM Probe

Note: Also several cloud sites have MJF deployed

- Testing the existence of MJF on WLCG sites
- Running in LHCb preprod for some months
- <http://wlcg-sam-lhcb-dev.cern.ch/templates/ember/#/>

Legend	Metric Name
6	org.lhcb.WN-mjf2 (/lhcb/Role_production)

[Link to data](#)

Sitename	Flavour	Host status in profile	Hosts	6
LCG.CERN.ch	CREAM-CE	OK	ce301.cern.ch	OK
		OK	ce302.cern.ch	OK
		OK	ce401.cern.ch	OK
		OK	ce402.cern.ch	OK
		OK	ce403.cern.ch	OK
		OK	ce404.cern.ch	OK
		OK	ce405.cern.ch	OK
		CRITICAL	ce406.cern.ch	OK
		OK	ce407.cern.ch	OK
		OK	ce408.cern.ch	OK

Sitename	Flavour	Host status in profile	Hosts	6
LCG.GRIDKA.de	CREAM-CE	WARNING	cream-ge-1-kit.gridka.de	W
		WARNING	cream-ge-2-kit.gridka.de	W
		WARNING	cream-ge-3-kit.gridka.de	W
		WARNING	cream-ge-4-kit.gridka.de	W
		WARNING	cream-ge-5-kit.gridka.de	W
		WARNING	cream-ge-6-kit.gridka.de	W
		WARNING	cream-ge-7-kit.gridka.de	W
		WARNING	cream-ge-8-kit.gridka.de	W

Note: WARNING b/c of extra README file, otherwise OK

Sitename	Flavour	Host status in profile	Hosts	6
LCG.LPNHE.fr	CREAM-CE	OK	lpnhe-cream.in2p3.fr	OK

Status: 4 LHCb supporting sites have MJF deployed



... in contact with more UK and swiss sites, out of a total of >60 LHCb supporting sites

# How to move on ...

- LHCb asks for deployment of MJF at supporting sites by the end of this year
  - Similar to what has been done for CVMFS
- Correctness of the provided features shall be checked against data collected by experiments
  - See also Philippe's talk
  - If differences are spotted and not obvious bugs the TF can provide a platform for discussion/clarification

# Links / Further Info

- **Taskforce Twiki:** <https://twiki.cern.ch/twiki/bin/view/LCG/MachineJobFeatures>
- **Git Repo:** <http://cern.ch/go/BKp7>
- **LHCb SAM preprod instance:** <http://wlcg-sam-lhcb-dev.cern.ch/templates/ember/>
- **Egroup:** [wlcg-ops-coord-tf-machinejobfeatures@cern.ch](mailto:wlcg-ops-coord-tf-machinejobfeatures@cern.ch)



# BACKUP

# Example MJF SAM probe result:

## Detailed output of Metric Result

Field	Value
Hostname	ce301.cern.ch
Metric	org.lhcb.WN-mjf2
VOFQAN	/lhcb/Role=production
Service Flavour	CREAM-CE
Timestamp	2015-09-07T05:27:06Z
Status	OK
Summary	p05795827s46895.cern.ch: Info Probe executed successfully
Details	<pre>Info      : Processing MACHINEFEATURES Info      : MACHINEFEATURES=/etc/machinefeatures/ Info      : Feature log_cores=32 found Info      : Feature jobslots=32 found Info      : Feature phys_cores=16 found Info      : Feature hs06=358.444 found Info      : Feature shutdowntime from specification not found on the worker node Info      : Feature shutdown_command from specification not found on the worker node Info      : Processing JOBFEATURES Info      : JOBFEATURES=/tmp/lhcbprd/jobfeatures/695148758 Info      : Feature cpu_limit_secs=2506.83509836962 found Info      : Feature wall_limit_secs_lrms=172800 found Info      : Feature cpufactor_lrms=2.87214743589744 found Info      : Feature disk_limit_GB=1116.4499552 found Info      : Feature jobstart_secs=1441603426 found Info      : Feature cpu_limit_secs_lrms=7200 found Info      : Feature wall_limit_secs=60164.0423608708 found Info      : Feature allocated_CPU=1 found Info      : Feature mem_limit_MB from specification not found on the worker node Info      : Feature shutdowntime_job from specification not found on the worker node</pre>



[www.cern.ch](http://www.cern.ch)