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Objectives

Support the experiment lifecycle

Setup: annotate, filter and select resources

Live: Real time monitoring and callbacks

Viz: Visualize the results of experiments

Rewind: post-process and analysis

And more ...

- ➔ Build an on-line research community
- ➔ Share knowledge and best practices
- ➔ Learn user requirements and preferences
- ➔ Design informed federation policies

First step: Experiment setup

Basic principles:

- Start simple and add complexity on the way
- Learn from the users

Key design choices:

- 1) Build on the successful PlanetLab MySlice GUI extension of the node table
 - More than 400 PLE and PLC users use it today
- 2) Offer powerful annotation and filtering options to address heterogeneity and scale
 - Aggregation of numerous sources of information (system, performance, monitoring) by TopHat

Federation of resources and monitoring information in the same place

<http://myslice.onelab.eu>



Implementation

Use of **delegation** property of SFA

- Different authentication options

Local **XMLRPC API** acting as an SFA abstraction

- Generic resource representation

Standard web-design tools

- Joomla!, jQuery

High performance

- Personalized caching
- Asynchronous rendering and updates

Flexible and extensible

- Modular design, plug-ins
- Query model

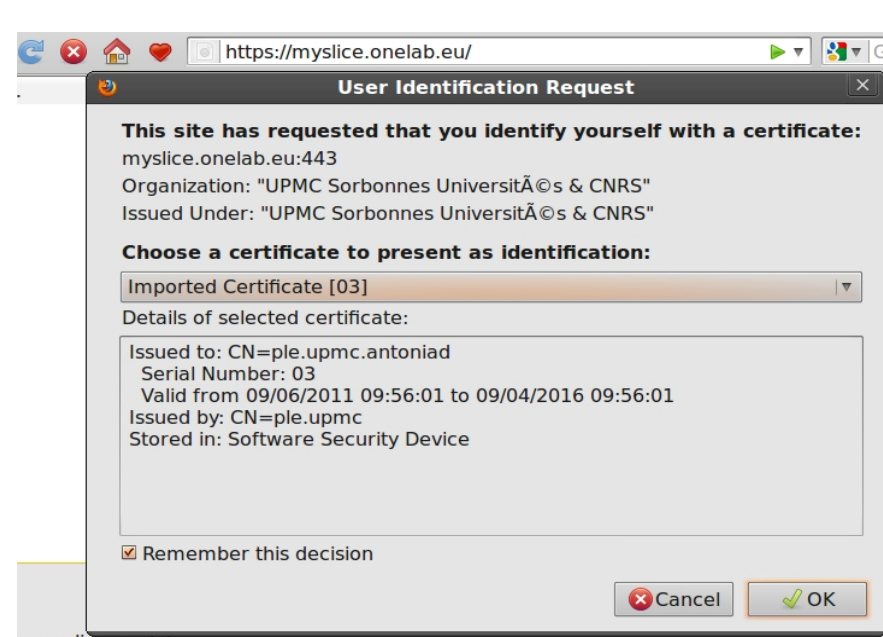
Authentication and Authorization

Annotation, Filtering, and Selection

OneLab users OR PlanetLab Central users Local MySlice users

```
$ openssl pkcs12 -export
-inkey antoniad.pkey
-in ple.upmcanoniad.gid
-out ple.upmc.antoniad.p12
```

```
$ sfi.py delegate ple.upmc.slicebrowser
--slice ple.upmc.test
```



Annotate and filter [hide configuration panel]

Select [hide selection panel]

Edit	Header	Field	Resource	Type	+/-
<input type="checkbox"/>	OS	os	node	system	<input type="checkbox"/>
<input type="checkbox"/>	PL	packet_loss	link	performance	<input type="checkbox"/>
<input type="checkbox"/>	LPR	radius	node	location	<input type="checkbox"/>
<input type="checkbox"/>	LRN	region	node	location	<input type="checkbox"/>
<input checked="" type="checkbox"/>	R	reliability	node	performance	<input checked="" type="checkbox"/>
<input type="checkbox"/>	SN	site	generic	authority	<input type="checkbox"/>
<input type="checkbox"/>	S	slices	node	utilization	<input type="checkbox"/>

Selected columns: R,H,W,AS,...
Active filters: R>70

View Type Authority +

Selection-based filter:
Potential
Check all visible

18 (24) attached
1353 (1347) potential

Update slice

Selected columns: R,H,W,AS,...
Active filters: R>70

View Type plc +

Type	Name (HRN)	Authority	R	HW	AS	+/-
node	planetlab1.iis.sinica.edu.tw	plc	99	plab-pc,pc	9264	<input checked="" type="checkbox"/>
node	planetlab4.ie.cuhk.edu.hk	plc	99	plab-pc,pc	3661	<input checked="" type="checkbox"/>
node	planetlab3.mini.pw.edu.pl	plc	99	plab-pc,pc	12464	<input type="checkbox"/>
node	planetlab2.citadel.edu	plc	99	plab-pc,pc	2711	<input type="checkbox"/>
node	planetlab3.inf.ethz.ch	plc	99	plab-pc,pc	559	<input type="checkbox"/>
node	planetlab4.inf.ethz.ch	plc	99	plab-pc,pc	559	<input type="checkbox"/>
node	planetlab2-santiago.lan.redclara.net	plc	99	plab-pc,pc	27750	<input type="checkbox"/>

18 (29) attached
1353 (1342) potential

Update slice



Welcome Panayotis Antoniadis
SFA HRN: ple.upcm.antoniad

Log out

Main Menu

Dashboard
Platforms
About

User profile

Panayotis Antoniadis

Email: antoniad@rp.lip6.fr

Manage credentials

Slices

ple.upmc.test

Testbed access

- Emanics_Lab
- GpENI VINI
- IONPL
- MAX
- PlanetLab
- PlanetLabEurope
- Private PlanetLab Korea
- VICCI
- VINI



Understanding federation
Funding No. 1756

