



Enabling Grids for E-science

PPS and middleware rollout

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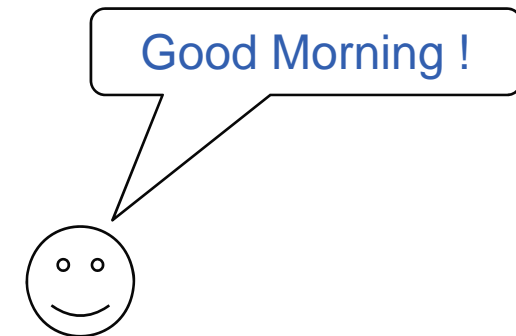
EGEE 08
Istanbul - 24 Sep 2008

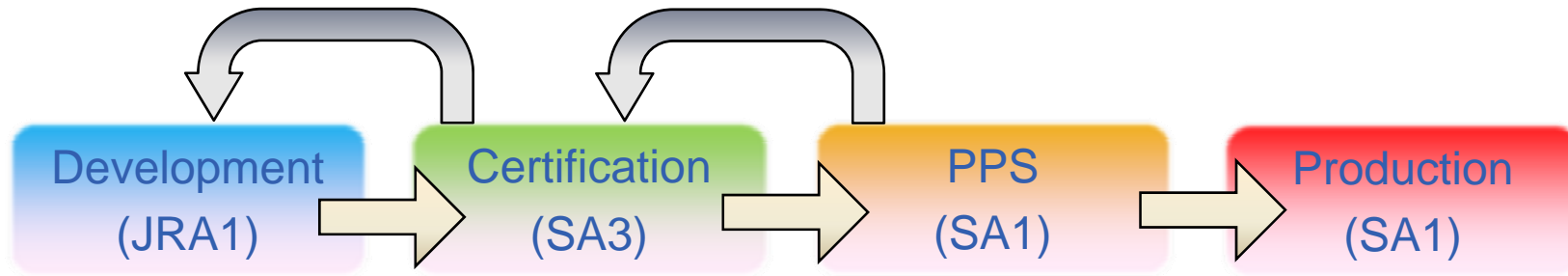
www.eu-egee.org



- **“*The law’s delay*”**: inside the “two-week” stage
 - Optimisations of the PPS phase

- **Changes in PPS mandate and their effects on the roll-out procedures**
 - Concept of “Logical PPS” (or “Pilot Services in Production”)
 - Case study: The roll-out of the WMS
 - A new model for the roll-out of a new middleware service (or new major feature)
 - Sparse considerations and open points on pilot services



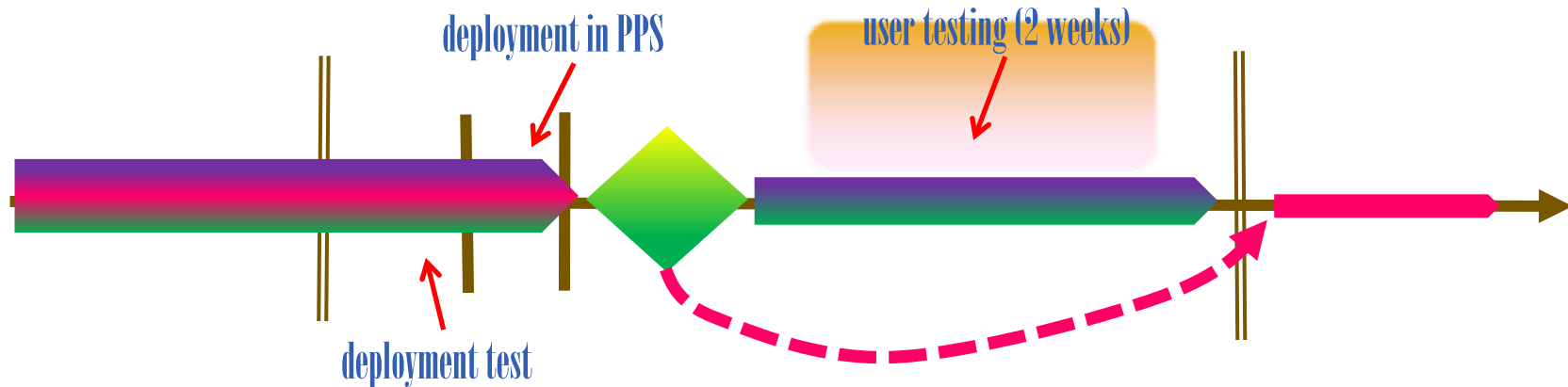


- “The PPS introduces a delay of 2 weeks in the release”

A rounded rectangular box with a vertical gradient from orange at the top to light pink at the bottom. The text 'PPS (SA1)' is centered within the box.

PPS
(SA1)

- **“The PPS introduces a delay of 2 weeks in the release”**
- **This statement is not always correct**



- The 2-week stage in PPS is not a dogma
- No activity? → immediately to production (e.g. *FTS*)
- User tests ongoing? → the PPS stage can be stretched (e.g. *glexec*)
- Delays in one component don't affect the others

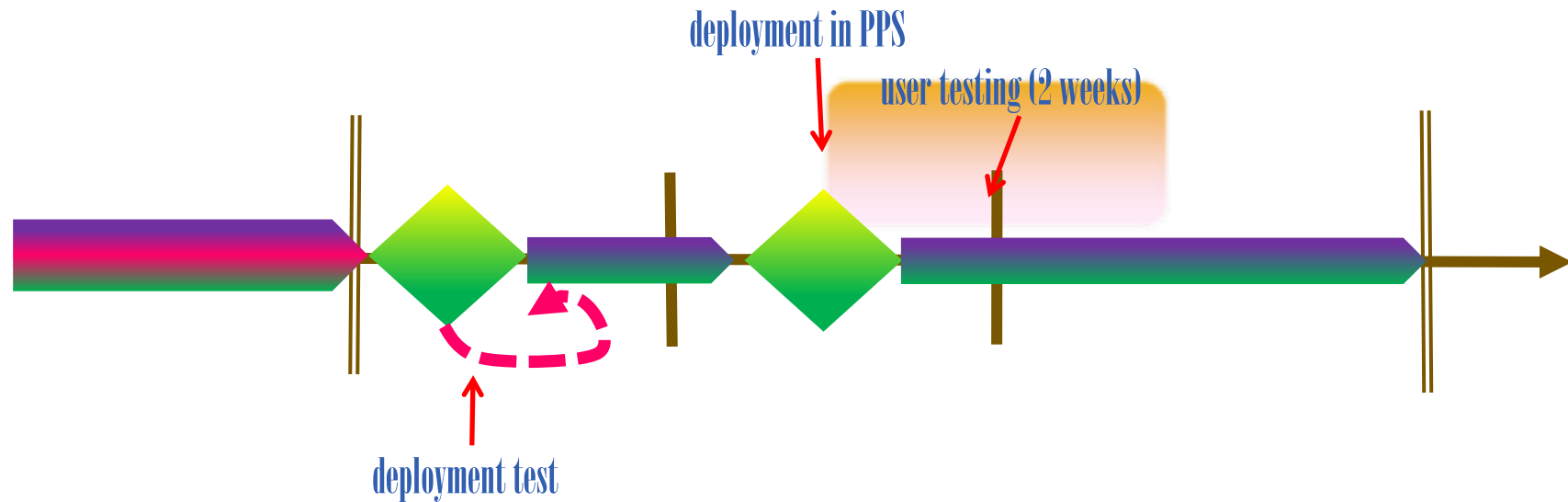
Development
(JRA1)

Certification
(SA3)

PPS
(SA1)

Production
(SA1)

- **Fine tuning**



- Currently patches still processed as a bundle in the deployment test
- May become expensive in some cases. We are working on it
- If a particular module is not passing the deployment test, the remaining modules should go ahead

Development
(JRA1)

Certification
(SA3)

PPS
(SA1)

Production
(SA1)

- **Streamlining**

- **Certified patches are currently buffered before getting into pre-production**
- **One technical reasons for that:**
 - need to schedule the updates of the repositories and maintain the consistency of PPS deployment test environment.
- **We are currently analysing the feasibility of streamlining patches into PPS**

- **Changes in mandate and effects on the roll-out :
The “Logical PPS”**

- The EGEE Pre-Production provides early access **on-demand** to grid services to **interested** users, in order to test, evaluate and give feedback to changes and new features of the middleware.
- In addition to that, the pre-production extends the middleware certification activity, helping to evaluate deployment procedures, [inter]operability and basic functionality of the software against operational scenarios reflecting real production conditions

- **Promote Usage**
 - New Concept of “logical PPS” aka “Pilot Services in production”
- **Optimise Work**
 - Get rid of bottlenecks, reduce staging delays
- **Reduce Costs**
 - Instantiate services only on real demand and with real use cases
- **(... and make it faster, please !!)**
 - Keep an eye on the elapsed time-to-production of the middleware updates (without losing quality)

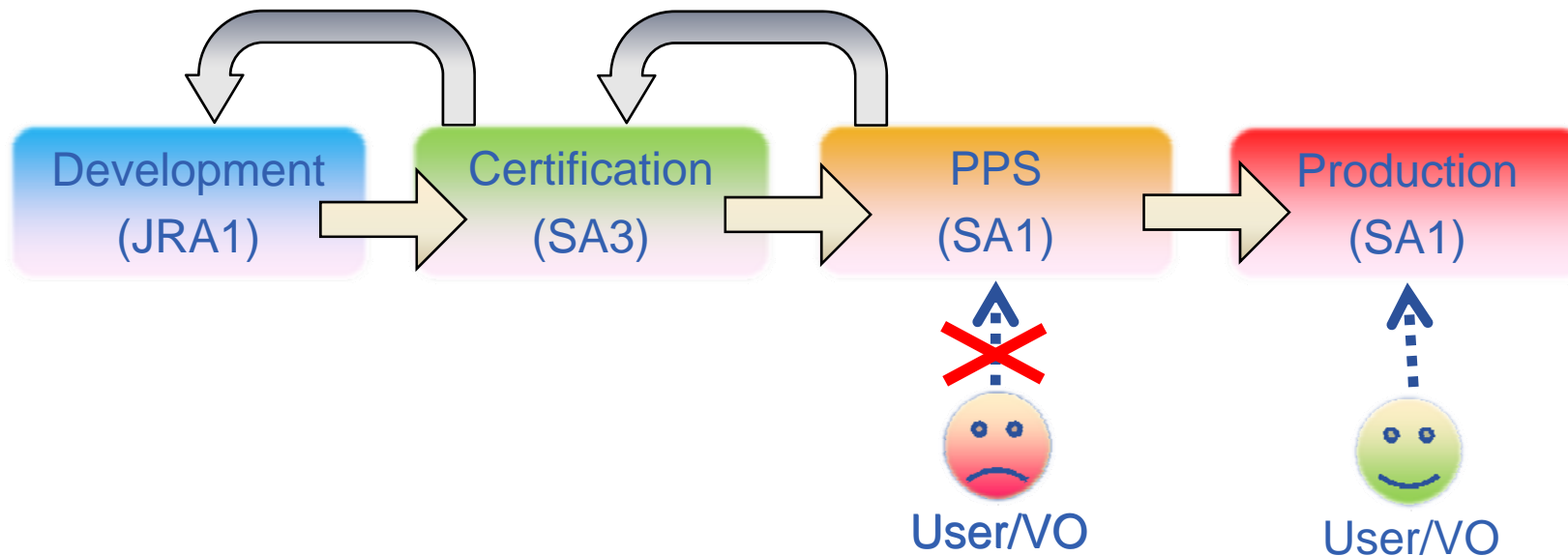
Development
(JRA1)

Certification
(SA3)

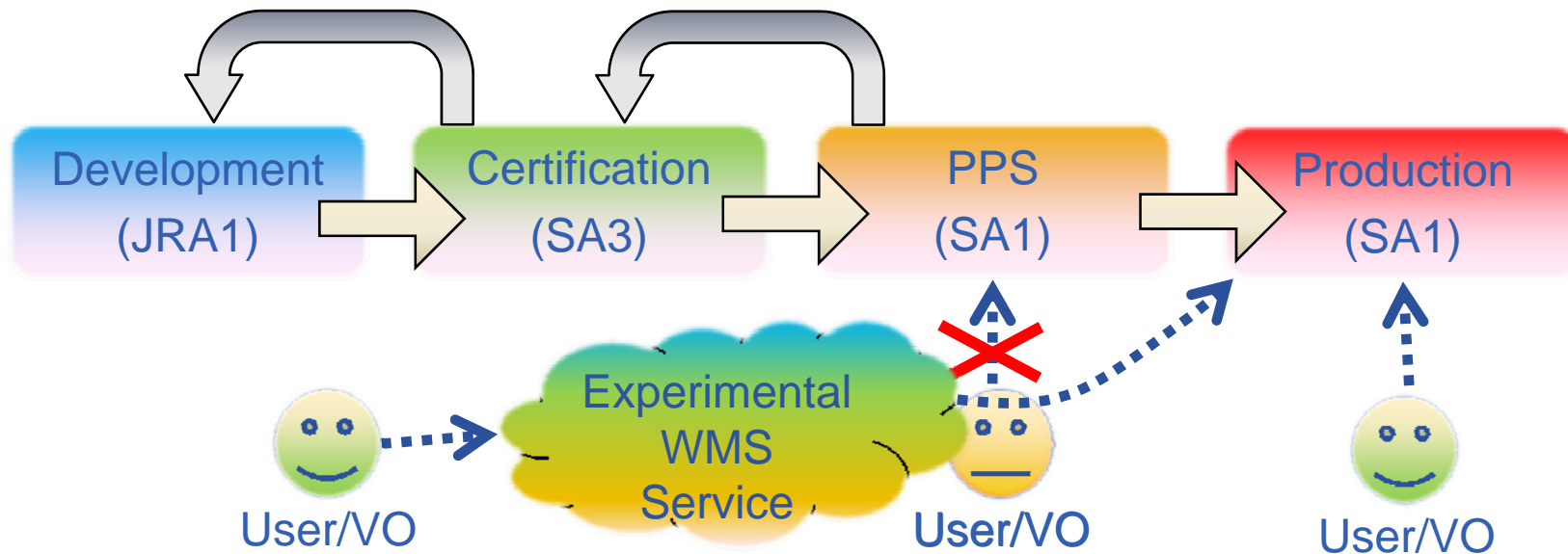
PPS
(SA1)

Production
(SA1)

- **A bit of background: the origin of the idea**



- The gLite delivery model is based on a pretty “physical” idea of the PPS
- The PPS is a grid infrastructure, largely independent from production, open to users from the VOs
- We discovered at our expense that this was not what the users wanted

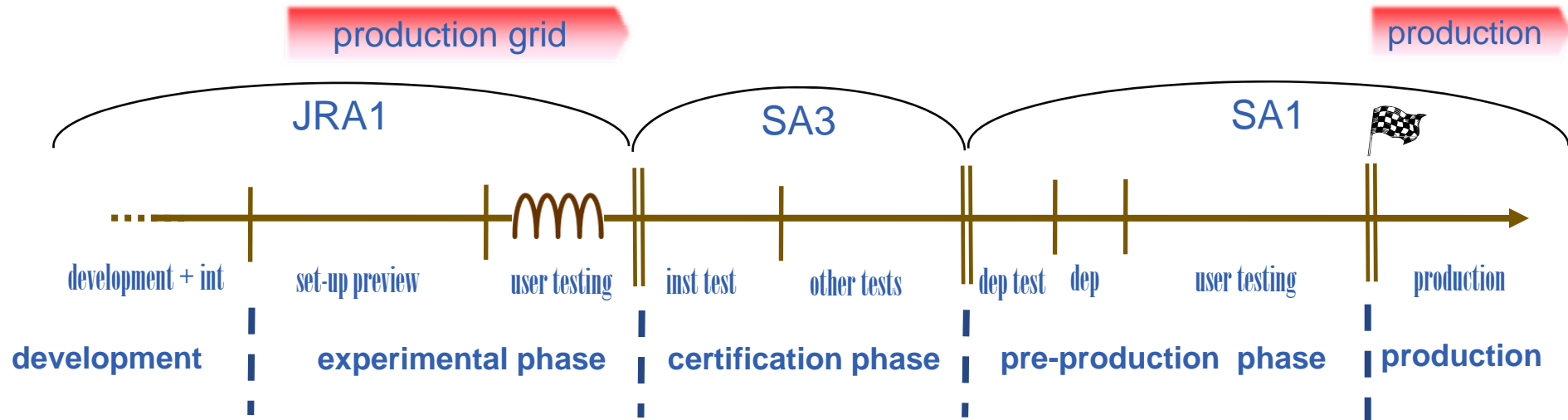


- The users liked better a different tool
- The Experimental WMS service: run in production mode by site admins, with developers, testers and users looking at it. Uncertified
- The EXP WMS was a complete SUCCESS

- **The “logical PPS” is a concept borrowed by the experience of the experimental services.**
- **We characterise a “Pilot Service” with:**
 - Availability of the new features for use in production mode
 - Users involved with real use cases to test
 - A controlled deployment in few selected sites
 - A clear set of objectives for the exercise
 - A limited duration in time
 - An cross-activity task force looking after the operations

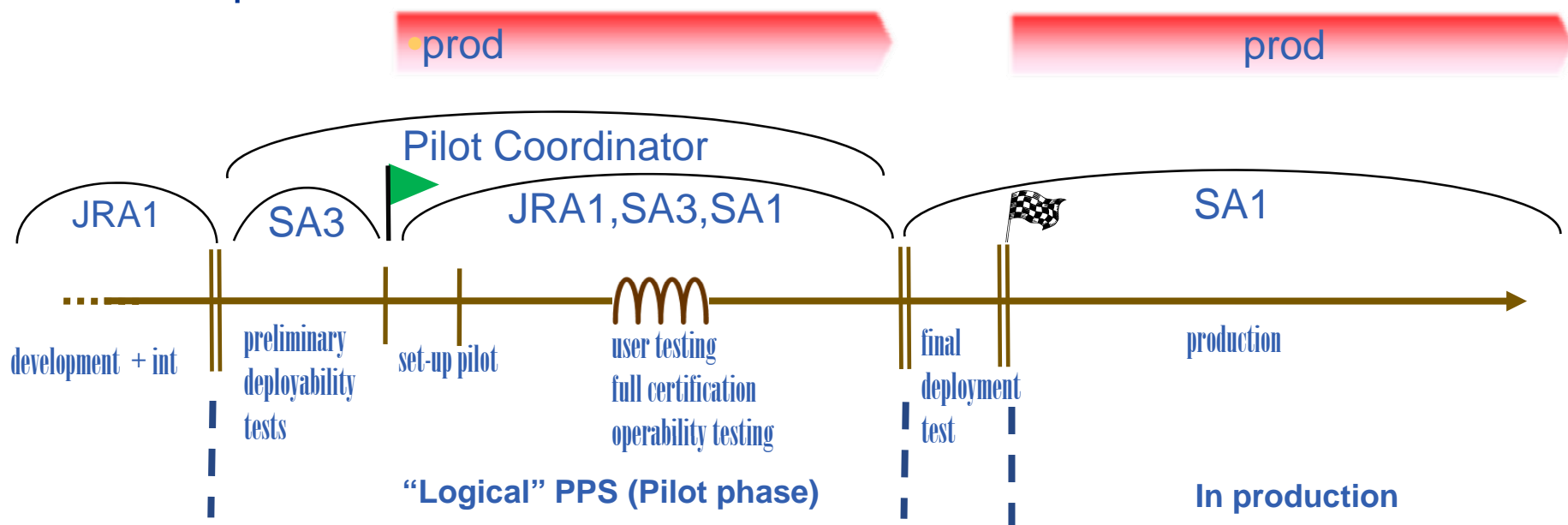
... and fitting all this in a standard release process ...

... is priceless!

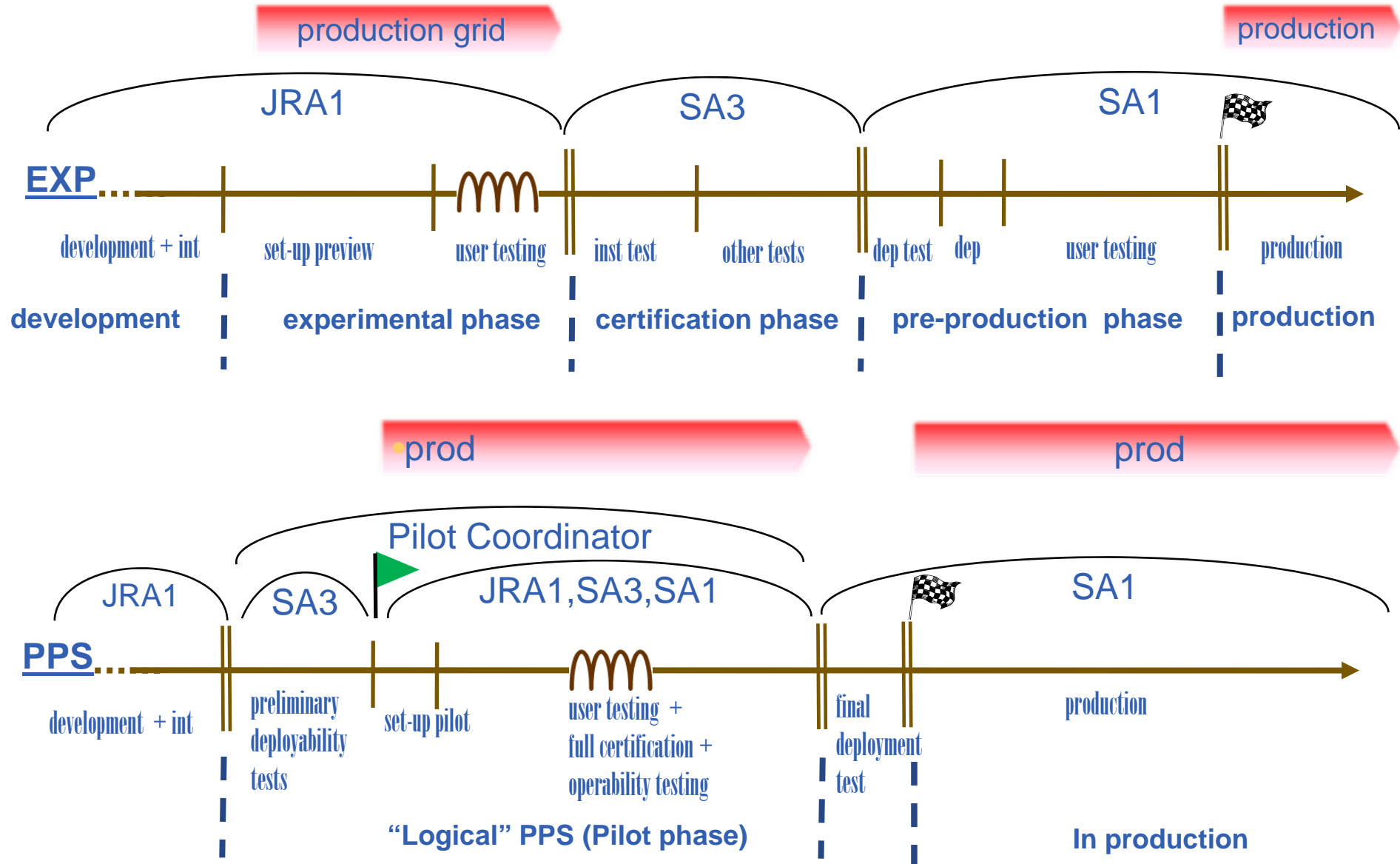


- **Service set-up before certification**
- **“Hot” phase of user testing and quick fixes**
- **Use cases well explored**
- **Once in certification, standard procedure applied**
- **PPS added value limited to final deployment test**
- **User testing phase in PPS practically void**

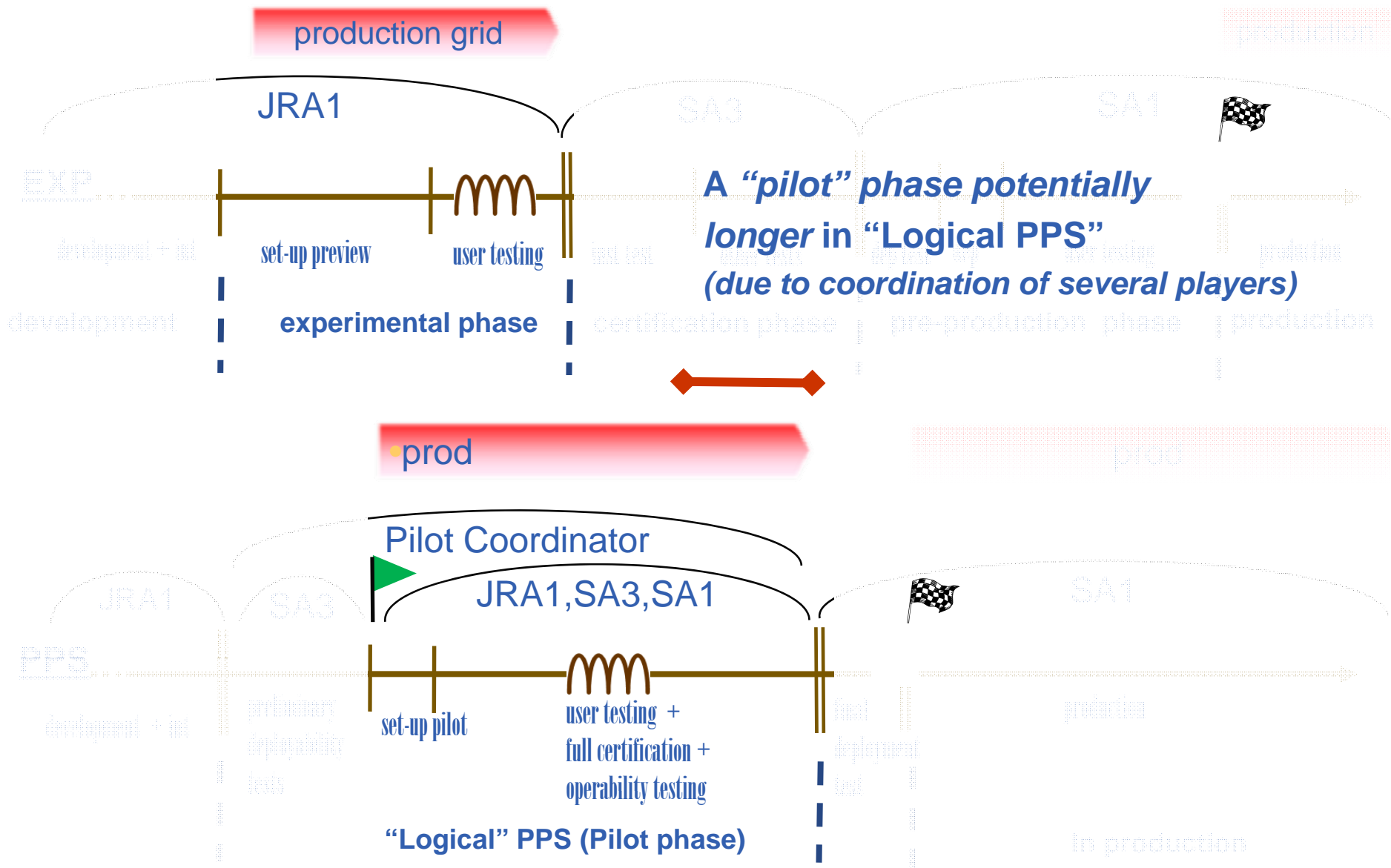
- Service set-up by selected sites as soon as judged “deployable”
- Certification, operability and functionality tests run in parallel by SA3, SA1 and Users with support from JRA1
- Pilot coordinator to watch over the operations
 - synchronisation of workspaces and activity
 - respect of milestones



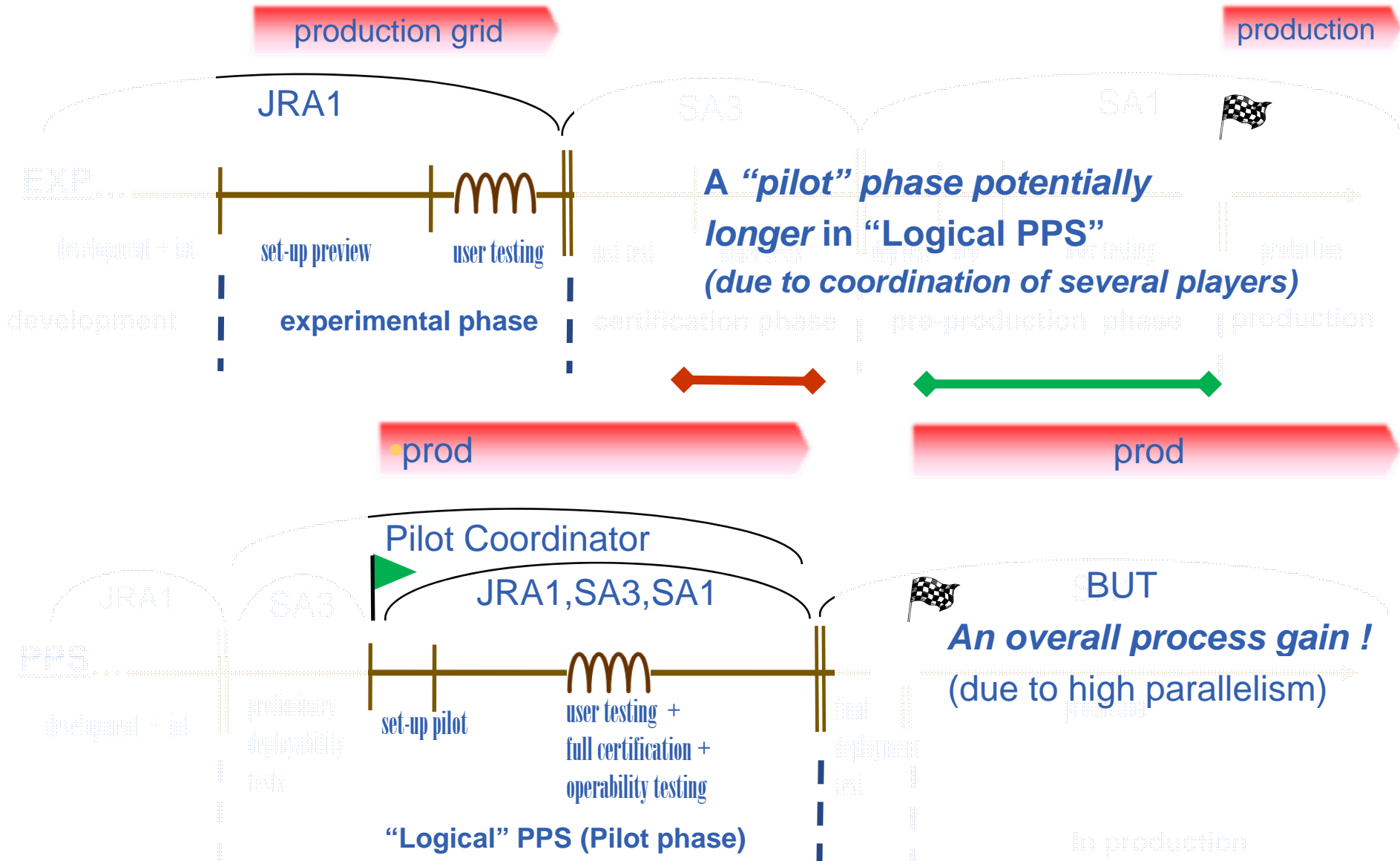
The two timelines in comparison



The two timelines in comparison



The two timelines in comparison



- **VO users (at least LHC ones) like “Pilot Services” in production and invest resources in using them**
 - Highly valuable test activity
- **Difficult integration with standard release procedure**
 - Formal procedures in study in PPS to cover technical aspects of the release (but not many cases to practice so far)
 - No deterministic trigger to start-up a pilot. We rely on the EMT to identify releases where piloting activity is required
- **Considerable effort needed to manage live “pilots”**
 - This approach is not sustainable if used systematically
 - Only for special cases (e.g. non-backward compatible upgrades, new services)
- **User testing of client tools, much more frequent, cannot be handled in this way**

- **We already operate “pilot services” in PPS**
 - “cream CE” on-air now and an ICE WMS coming soon
 - Some encouraging results
 - <http://indico.cern.ch/contributionDisplay.py?contribId=157&sessionId=66&confId=32220>
 - <http://indico.cern.ch/contributionDisplay.py?contribId=356&sessionId=72&confId=32220>
- **The definition of the process is still in progress**
 - Naming conventions still under discussion
 - Synchronisation glitches sometimes; but we learn
- **Very positive interactions with users**
 - Tailor-made set-ups and human interface more attractive than the “neutral” PPS general-purpose infrastructure

- **Now that we have pilots, can we re-convert the PPS general purpose infrastructure (AKA the “2-week stage”) to something else?**
 - We have to offer a valid alternative to the users first
 - Pilots are OK for grid services, but not applicable to clients (WNs in particular)
 - And the client releases are the vast majority...

- **The “Logical PPS” (or “Pilot Services in Production”) is a new way to offer pre-production services to EGEE users**
- **Model suggested by the WMS Experimental Service**
- **Deep review of the release process done in support of “Pilots”**
- **We cannot use pilot services for everything, though**
- **Further optimisation possible to the “classic” release procedure**

- **WLCG/EGEE Pre Production: Use Cases (EGEEIII)**
<https://twiki.cern.ch/twiki/bin/view/LCG/PreProductionUseCases>
- **WLCG/EGEE Pre Production: Service Description (EGEEIII)**
<https://twiki.cern.ch/twiki/bin/view/LCG/PreProductionServiceDescription>
- **The Release Procedures: From Certification to Production**
<https://twiki.cern.ch/twiki/bin/view/LCG/PPSReleaseProcedures>
- **New Pilot Release Procedure:**
<https://twiki.cern.ch/twiki/bin/view/LCG/PPSMPSReleaseProcedures>
- **All Available on the PPS web site**
www.cern.ch/pps

