



Needs and pre-requisites for testing facilities

SME point of view

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JCP-Connect (formerly JCP-Consult)

- SME created in 2002, based in Rennes, France
- R&D (6 people) and project management (5 people)
- R&D activities in CCN/mobile CDN + product development
- PlanetLab node

Agenda

- SME participation in FIRE/FUSION
- Examples
- Some SME constraints vs. FIRE
- conclusion



SME participation in FIRE...

- Success rate for SME was low, improving.
Examples (far past):
 - From 0 (openLab, Smartsantander) to a few (Bonfire, Fed4fire), but sometimes applications decreasing between calls
 - Low success rate (from 0 to 10%)
 - Hopefully mentoring and deep simplification will help
 - SME failing cautious to apply again

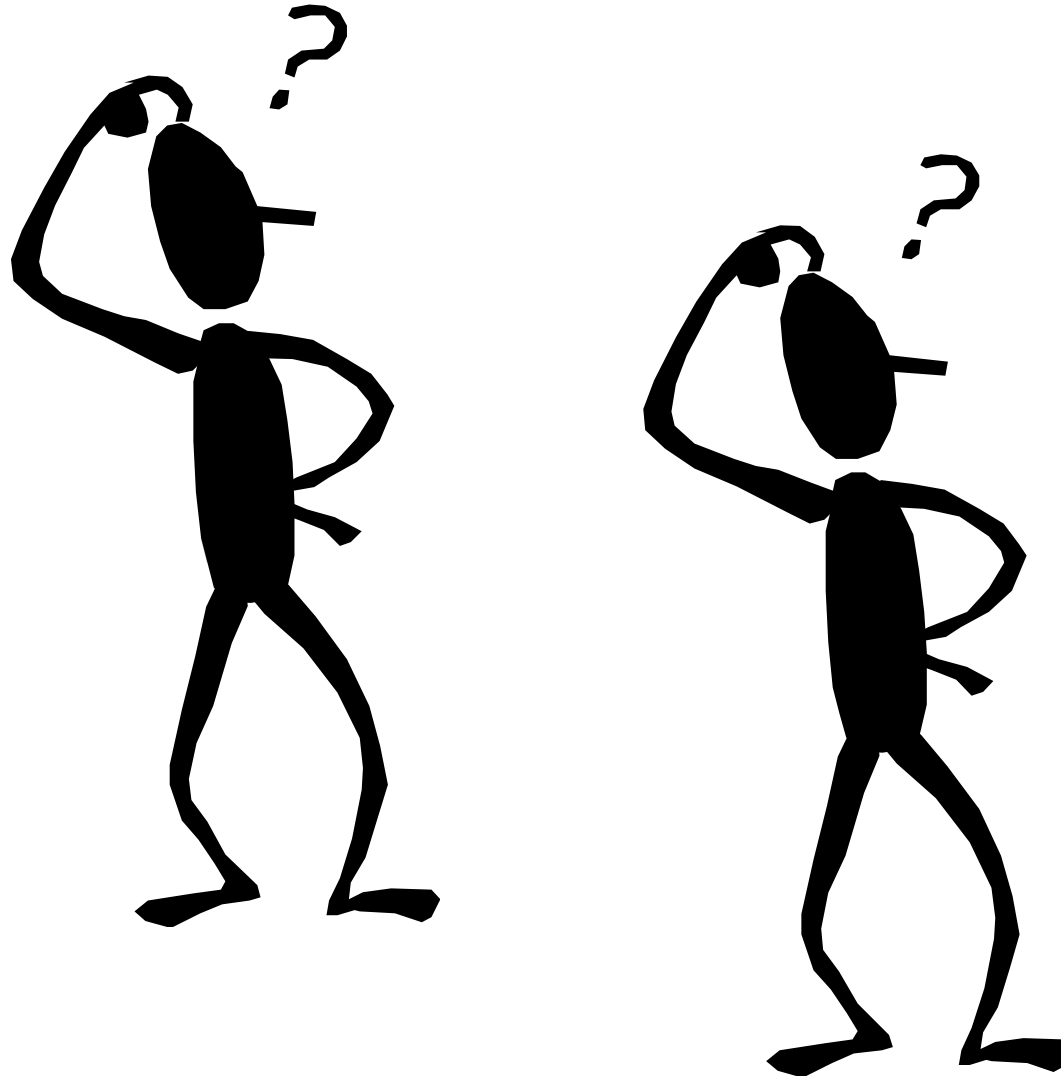


SME position in Europe

- 65 % of jobs, 85 % of total job increase
- 90% under 10 employees (means most SMEs are incompletely structured)
- Slow evolution (compared to other continents)
- Potential number of SME users of facilities 100000+



HOW TO HELP SME?



UNAVAIL



Utilization of Fed4FIRE infrastructure for performing experiments for designing future-proof architecture of multi-channel marketing platform

WHAT?

- Multi-channel marketing platform: multicast delivery of different digital messages (SMS, e-mails, QR-codes, messages inside social networks etc.)
- Used for communication with consumers about business transactions: appointment and payment reminders, discount campaigns, use coupons, etc.

WHY?

- Current systems suffer from peak loads (e.g. during seasonal campaigns)
- Development of smartphones will impose great challenge to system throughput in near future
- Difficulties in rapid deployments “on demand”

HOW?

- Via usage of Fed4FIRE facilities for:
 - Determination of optimal geographical nodes distribution;
 - Performing of scalability/QoE tests;
 - Testing of novel approaches for messaging platform:
 - ✓ Cloud-based architecture
 - ✓ Novel database technologies
 - ✓ Loadbalancing mechanisms
 - ✓ Message engines replication



Channels



Mobile Website



SMS



Email



Social Media



Qrcode

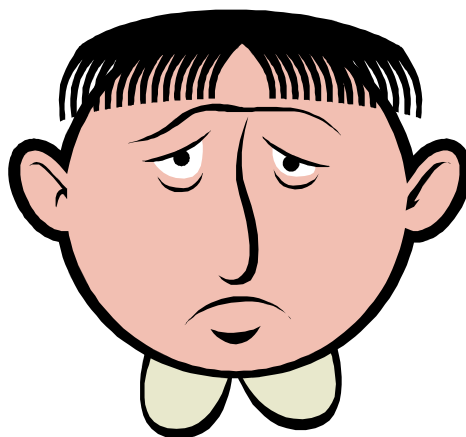
3-steps approach, 3 Fed4FIRE testbeds:

1. Definition of optimal geographical distribution of nodes and measuring of accompanying parameters:
 - At **PlanetLab Europe**: installation of instance of multi-channel marketing platform at center of Europe (Rennes), North of Europe (Stockholm) and South of Europe (Athens)
 - Performing of measurement of actual network characteristics and relevant bottlenecks (useless packets, checksum errors, lost packets etc.)
2. Identifying of maximum scalability of the current platform and measuring of accompanying QoS deteriorations:
 - At **Virtual Wall**: setup of the architecture of the platform (including several hundred clients) with pre-configured network layer parameters (previously defined on the PlanetLab Europe at step#1)
 - Measurement of load limit where clients QoS will be at the minimum acceptable level
3. Implementation and testing of the novel algorithms for dynamically ranging highly scalable cloud-based platform
 - At **BonFIRE**: setting up of architecture and testing of implemented solutions:
 - ✓ Splitted READ/WRITE access to databases
 - ✓ Database/API loadbalancing (between BonFIRE cloud nodes)
 - ✓ Message engines replication



As a result....

- Proposal not accepted
- SME refused to participate in open calls anymore



JCP in Planetlab

- Quite satisfactory for R&D work:
 - Low entry cost, can be used progressively
 - Improving with time, sustainability guarantees
 - 2 sets of experiments in 2 years
 - No need for funding as interest and ROI well understood (but for R&D)
 - Could be used now for development work



SMEs are focused

- Full focus on everyday routine
 - Business comes first
 - Customers comes first
 - Reluctant to match proposal according to needs of text of the call
 - Minimum set of only necessary texts
 - Dissemination can be (sometimes) seen as unpleasant obligation



Commercial applicability of state of the art

- No chase of progressing beyond state of the art, if not justified for business needs
 - Commercial success is higher priority than degree of innovation
 - Progress beyond SotA is always a spending, but not necessarily an investment
 - Things should actually work
 - Results in “weaker” proposals than academia or another SME experienced with EC programmes
 - A **Citate:** “*Though the level of innovation and project ambition are not very high...*”

Second time



“Go-to-market” testing

- Seek for “Go-to-Market” testing:
 - Acceptance tests
 - Usability tests
 - Etc. – with the users
- Although can realise that testing during R&I very productive
- ALSO.... Reluctant to involve own Customers (*“business comes first”*)

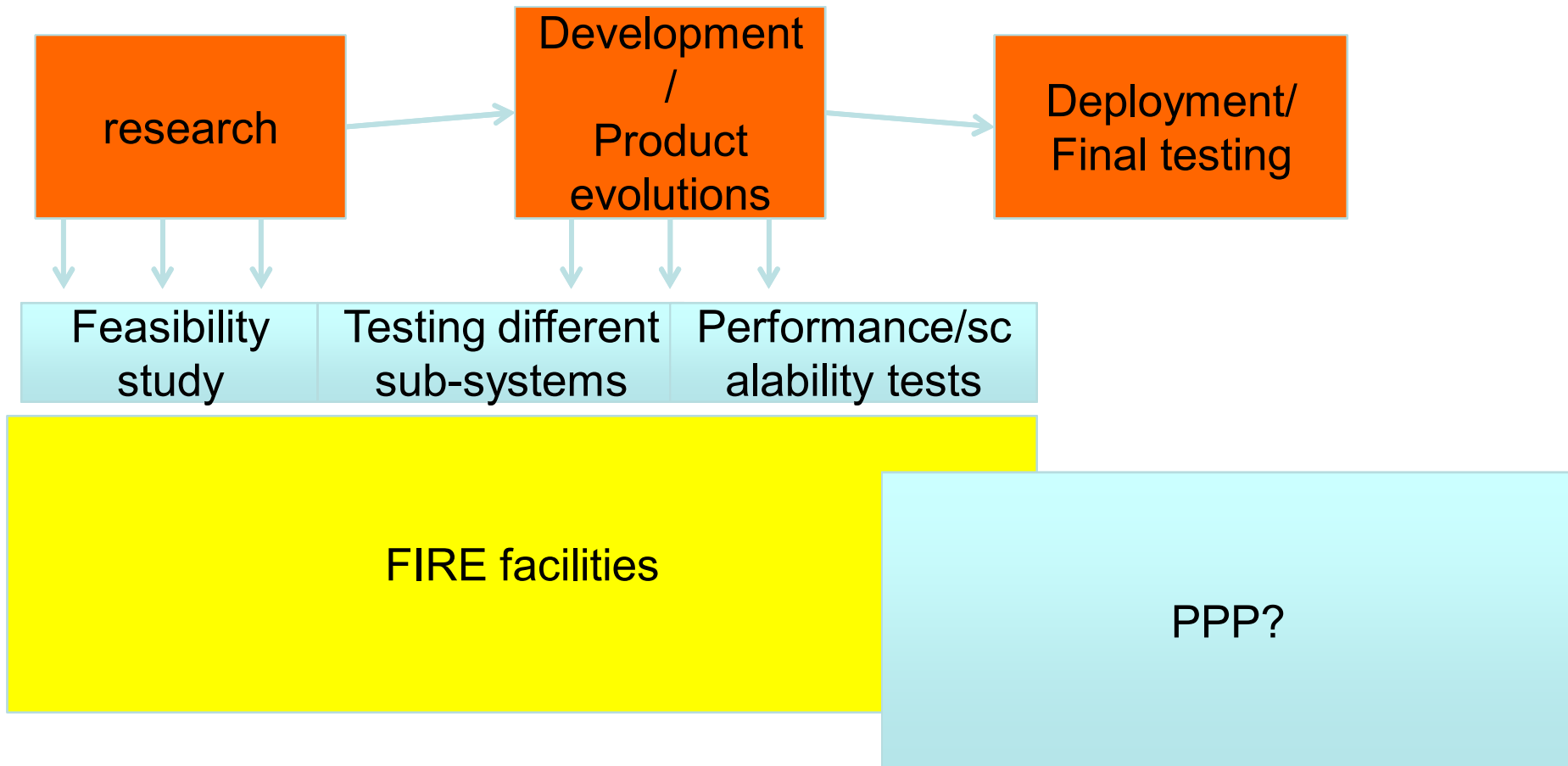


Simpler organization and administration

- Usually short time from idea to testing
- Description of test can be changed during test
- IPR protection is sensible
- Open Access is very welcome



How FIRE connects to SMEs R&I



- High tech SMEs/startup
- More « commercial » SMEs

Lessons learned

- Fast track for guaranteed testing
- One stop shop (federation) « translate the need into testing phases » (hierarchical FLS, single sign on, same tools, etc.)
- Training/guidance/support, even at minimum level
- Lightweight funding for experimenters and testbeds (e.g. to cover travel expenses); although this aspect would have to be monitored..
- Right information and advertisement process
- Integration of user communities, where possible



Conclusions

- FIRE roadmap well positioned: facilities covering all kind of areas, at technology forefront, challenges matching (support, common tools, trusts and sustainability, ..)
- Mentoring is essential
- Covers well some aspect of SMEs R&I life cycle
- Mentionned evolutions mostly in progress,
- Others (open access, lightweight funding, fast track) are really desirable
- More global and concrete European policy and actions desirable



Thank You!!!

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