STAY CALM AND FIGHT BACK

EPSRC Grant Applications Experience Sharing

Dr Posco Tso p.tso@ljmu.ac.uk

GENERAL ISSUES

Case for Support	**The technical meat of the proposal, 2 pages Track Record, 6 pages Description of work. (Hard)**
Justification for Resources	**Why you need what you asked for. 2 pages max. (Easy)**
Pathway to Impact	**What you are going to do to make sure wider world cares about your results. 2 pages max. (Hard)**
Project Plan	**Fairly straightforward.**
Staff CVs	**2 pages max for each "named" staff.**
Other support docs	**Could be anything, e.g. letters of support. Institutional support statement for First Grant.**
JES-form	**Administrative Web portal**

GENERAL TIPS

There is much advice on the Web and it's pretty consistent on the basics. I'm going to focus on issues that I think they are important.

GENERAL TIPS

Make sure that the **first page** acts as a **stand-alone summary** of the entire proposal.

Great - now you can circulate this to your fellow domain experts for comments on your proposal idea

GENERAL TIPS

Get plenty of feedback from your friends and internal reviewers

Comments may not be consistent, but you can judge what to incorporate in your changes.

GENERAL TIPS

Track record should demonstrate that you can deliver the project (Why me?)

e.g. publications, prizes and awards, citations (e.g. by well-known research centres), invited talks, previous grants, etc.

GENERAL TIPS

Make sure you nominate referees who are happy to give you 6 (out of 6).

I mean it - EPSRC will use at least one of your nominations

GENERAL TIPS

Get as many letters of support as you can from both academic and industry partners (which need to show cash or in-kind support)

It means your research is really important and timely.

~ 4 months later, review comments arrived

Review

"WTH, these guys (who didn't give positive comments and great scores) must haven't read my proposal carefully. It's not fair."

People can always pick up something to criticise, even though you have had a plenty of review before submission.

Review

PI Response (rebuttals) - two pages responses that technically allow you to **correct factual inaccuracies** and respond to **requests for clarification**.

Response

Fight Back if you disagree with reviewers, where possible, refer to your actual submission.

I've got 6, 4, 3 (awful scores!) and still got it funded

Response

Response to Reviewers

Fung Po Tso

1 Summary

I sincerely thank the reviewers for their insightful and highly supportive comments.

- *'innovative research agenda on a timely topic'* (*182172834*)
- *'novelty in the area of policy based management for cloud data centres is high, and the topic is also of importance'* (*188777979*)
- *'very promising first grant with great potential that focuses on a clear, timely and important real world problem'* (*105619038*)

I am delighted that all three reviewers acknowledge the novelty and importance of this proposal and affirm my ability to deliver. I fully intend to deliver transformative research at best value for money.

2 Answers to Specific Points

New research issues

This research is necessary because "*enormous numbers of duplicated, conflicted, contradicted, and outdated [6][9][4] rules occur at a variety of places in the network – **at network switches with SDN, at physical middleboxes in the network, at end hosts through NFV** [1][9][4]*" (Sec. 1).

This research issue is challenging because: "*(1) Independent tenants constantly impose contradicting networking objectives . . . ; (2) Dynamic virtual machine (VM) consolidation means both flow state and the mapping state of IPs must be updated . . . ; (3) Rapid change of the application life-cycle means frequent change to governing policies . . . ; (4) SDN and NFV have resulted in a greater number of independent entities that . . .*" (Sec. 1).

Therefore, the research objective is to devise "*an adaptive policy implementation scheme which takes into account: (1) frequent change of low level network state as a result of the ebb and flow of application demands and (2) a rule can be effectively placed in a **great number of various network function boxes at distinct points of the networks***" (Sec. 1).

188777979 comments that *'[comparing to my IEEE ICDCS'15, IEEE INFOCOM'16 works] the new research issues outlined in this particular proposal are pretty vague'*. It is noted in the proposal that my previous works only considered "legacy hardware middleboxes" (Sec. 2) whose locations in the network are known and static. In contrast with these works, this proposal aims to take into account: "***all types of network function boxes at different network locations, be they the middleboxes, network switches, or end hosts (NFV)***" and to "*provide the first work that considers all kinds of network function boxes in the network: rules, which compose a policy, can be intelligently placed and dynamically consolidated to any network function boxes including **physical middleboxes and switches and/or their virtual counterparts** as realised by end-hosts to simultaneously optimise resource utilisation and reduce policy violation*" (Sec. 2).

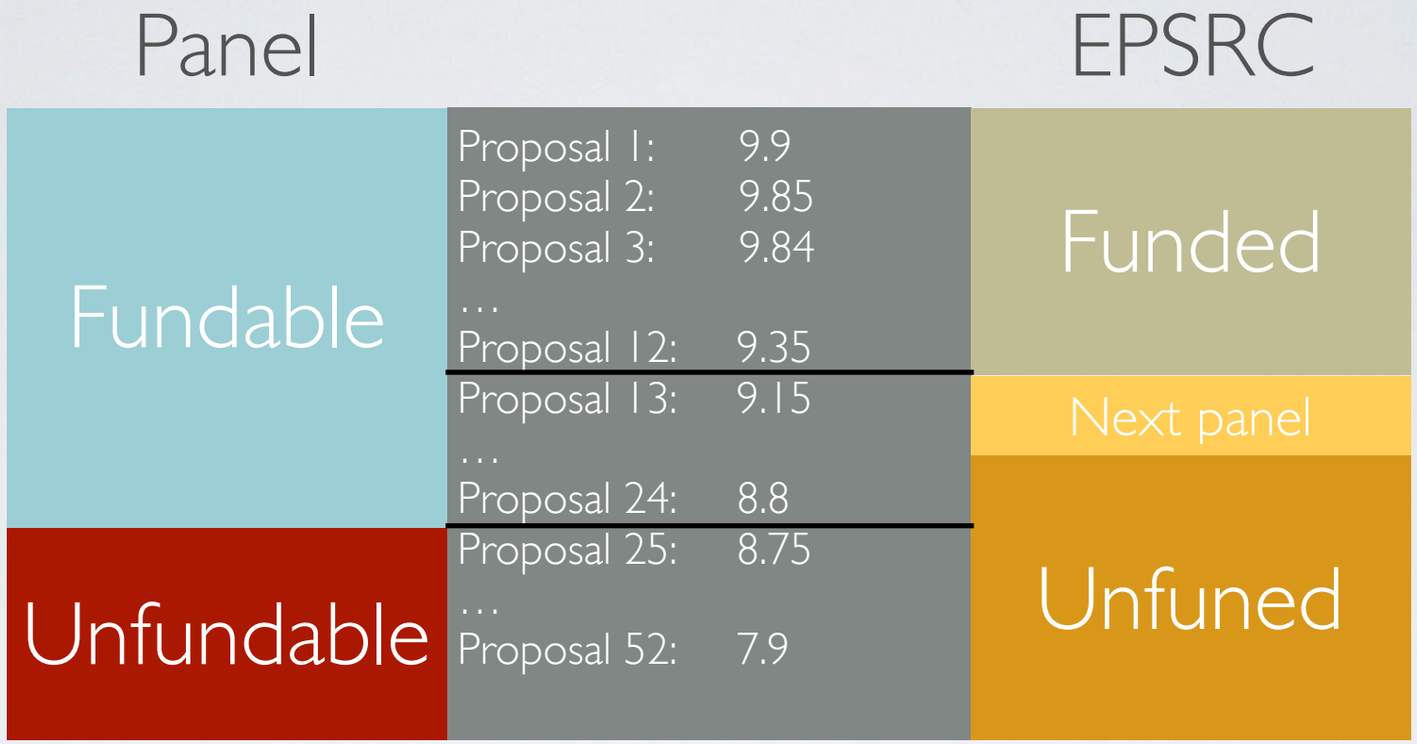
I am also confident that the panel will agree that new research issues and challenges have been clearly identified and presented in the proposal and the questions like *'what are they [all types of network function boxes]?', 'why is this necessary?' and 'what are the new research challenges behind this?'* have been unequivocally answered rather than remaining *'unanswered'*.

Research objectives

The overall project objective, apart from being described in Sec. 1 and 2 as quoted above, is also re-iterated in Sec. 7 – "*The overall objective of the proposed research is to drastically improve the network-wide resource usage efficiency and performance of cloud data centres through synergistic optimisation of virtual machine and network policy rules allocation*". In order to achieve this objective, it is clearly divided into four connected but smaller objectives and listed in Sec. 6 rather than *'failing to outline clearly and systematically'* (*188777979*). However, I agree these research objectives are *'partially what the project will do and partially what the systems properties/goals will be'* (*105619038*). This is necessary because the proposed research is a system research – embedding research objectives into system properties/goals will guide us to produce a system that realises all of them. I firmly feel that aligning research objectives with system goals is a benefit, not a cause for concern.

The proposed methodology

Opinion is divided between reviewers on proposed methodology. *182172834* acknowledges that this proposal *'describes a compelling research methodology'*, while *105619038* comments that *'No further details are given on the optimisation algorithm [WP2], . . . [WP2] is a critical part . . . more time should be given to [WP2]'* and *'to develop a simulator . . . and then to transfer to a real world system [for WP2]'*. I disagree with *105619038* that WP2 the key part of the proposal. Although equally detailed justification, the heading of WP1, "*Resource-*



At EPSRC panels there are three speakers who summarise the views of the referees and comment on how well you have responded to criticisms. They produce a ranked list.

- Professor John A Clark, University of York