Conference Report

**Conference attended**
IEEE Global Communications Conference (IEEE Globecom)
This question is read only.

**Location of the Conference**
Abu Dhabi

**Start Date**
09/12/2018

**Finish Date**
13/12/2018

**What were the highlights and main takeaways of this conference?**
IEEE Globecom along with IEEE ICC are the two main flagship conferences of the IEEE Communication Society. While these are more on the physical and link layer side of the communication stack and are thus attended by more electronic engineers than computer science networking people, they are also the main global venue where the people meet who work on satellite communications. The problem we have been trying to address (bufferbloat in satellite links, affecting TCP) is in large parts caused by people who configure satellite links, and these in turn tend to be electronic engineers.

So in many ways, this was the right forum to go to. The main highlight for me was being approached by Lin-Nan Lee, VP of Hughes Network Systems (a major satellite Internet provider in North America), who came up to me to say that he really liked my talk. He said that they are seeing long latency bottleneck effects on their bandwidth-constrained uplinks from some of their end users (probably the ones who share their connections with multiple sub-users) - so maybe we're looking at a much more widespread field of application here than we originally thought.

The main takeaway from Globecom for me was that 5G is upon us - and that satellites (in particular low earth orbit systems) are very much on the radar. One interesting tidbit from one of the keynotes was that the "per bit cost" of a global terrestrial system is only about 20% below that of a very low earth orbit satellite system. Whether this will be reflected in the pricing of such systems is another question, however.

**What were the lowlights of the conference?**
Not so much a lowlight as an opportunity: Globecom also hosted a meeting of the Technical Committee Meeting on Satellite and Space Communications (SSC), and since this was open to all comers, I went. This is where editorial boards etc. are presented. I couldn't help but notice that the chair said that for a particular board, the aim had been to have representation from three continents (read: North America, Europe and Asia). When I pointed out that the Pacific region had its own and rather specific needs in the area, and that maybe thought should be given to representation from the region, it became rather apparent that this idea had not crossed anyone's mind. The chair's response made it clear that he thought that the Pacific had the same needs as Asia, which however is not the case.
I had an opportunity to talk to him about this afterwards, and I hope that this will lead to better Pacific representation in the long term.

What would you do differently?

**How will you plan to share your learnings with the New Zealand Internet Community?**
Hopefully at the next NZ Internet Research Forum!

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**We'd love to see some visual and audio representations of your work. Please share below.**

**Upload files:**
Filename: globecom-presentation-queues-ulrich-2018.pptx
File size: 24.2 MB

and/or

**Provide web link:**
Must be a URL

and/or

**Provide additional details:**
At the time of writing, presentations from Globecom had not yet appeared on IEEEExplore, but I expect this to happen in the coming weeks/months.

Please include captions, if relevant

**Can we use your media content in our own communications?**
◉ Yes ◯ No ◯ Please contact us first
e.g. in our annual report, social media

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**Financial Report**

* indicates a required field

**Project Income & Expenditure**

Please provide details of any project income (funds received) and project expenditure (funds spent) to date.
Use the 'Notes' column to provide any additional information you think we should be aware of.

<table>
<thead>
<tr>
<th>Income Description</th>
<th>Income Amount ($)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department travel fund</td>
<td>$1,471.07</td>
<td>towards registration</td>
</tr>
</tbody>
</table>
Internet NZ conference travel grant $3,600.00 towards airfare, accommodation and incidentals

Can be grants, donations, personal funds etc.

<table>
<thead>
<tr>
<th>Expenditure Description</th>
<th>Expenditure Type</th>
<th>Expenditure Amount ($)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conference registration</td>
<td>Conference registration fees</td>
<td>$1,471.07</td>
<td></td>
</tr>
<tr>
<td>Airfare</td>
<td>Flights</td>
<td>$2,529.60</td>
<td>incl. booking fees</td>
</tr>
<tr>
<td>Accommodation</td>
<td>Accommodation</td>
<td>$587.46</td>
<td>incl. booking fees</td>
</tr>
<tr>
<td>Taxi and tourist tax</td>
<td>Other expenditure (add note please)</td>
<td>$70.07</td>
<td>taxis from/to airport in Abu Dhabi, local tourist tax</td>
</tr>
</tbody>
</table>

Income and Expenditure Totals

<table>
<thead>
<tr>
<th>Total Income Amount</th>
<th>Total Expenditure Amount</th>
<th>Income - Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,071.07</td>
<td>$4,658.20</td>
<td>$412.87</td>
</tr>
</tbody>
</table>

Have you experienced any issues with your intended project budget to date? If so, please explain reasons for any major variances or for providing incomplete information:
Costs came in below projection. Accommodation was much cheaper than anticipated. The airfare was also around $60 less than the direct return airfare would have been, due to the PI taking an additional "detour" via Europe! Local transport was also a little less than budgeted for.

Feedback

You are almost at the end of our application process. Before submitting your application, please take a few moments to provide some feedback.

Please indicate how you found the acquittal process:
- Very easy
- Easy
- Neutral
- Difficult
- Very Difficult
How many minutes in total did it take you to complete this form?
120
Estimate in minutes (i.e. 1 hour = 60 minutes)

Please provide us with your suggestions about any improvements and/or additions to this form that you think we need to consider:
Frequent messages about either having been logged out or there having been errors logging in were a bit annoying as these seem to be bugs not features.