Computer Science

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An Implementation of Distributed SIP for Wireless Mesh Networks

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Opposition Report, C/D-level

2005:xx

1 A General Evaluation of the Project

My general impression after reading this thesis report is very good. Reason behind this is that the report is well structured and well organized. Before starting each chapter, a brief introduction has given which sheds light on main points that are elaborated in the later part of chapters. As far as the thesis assignment is concerned, I think that this is an interesting topic and more research can be done in this field.

The objectives have been clearly mentioned at the starting of report. The authors also have mentioned the solution they will implement. This helps in setting a picture in reader's mind about what authors want to do and how they will do.

The "background" section contains the basic concepts which really are necessary to know before going into an in depth study. This section also contains existing solutions and after all these things authors have presented their solution. Other chapters are also well explained which keep reader's interest alive.

The authors worked hard to present their solution in which they faced several problems and unexpected behaviour as well but this study for sure helped them in learning a-lot about their chosen topic. In the end I felt little sorry about them since their solution is not practically usable about which they have confessed in the results and conclusion, but in the end they managed to achieve what they wanted i.e. running DHT and SIP on Linyphi.

2 Comments on the Project in Relation to the Dissertation

The project work is well documented in the dissertation report. My comments on the individual topics are as follows.

2.1 Title

In my opinion, the title is well chosen and is self explanatory for the dissertation. It explains about what this report is about. In today's world of communication, SIP is playing a great role for VOIP communications and IMS (IP Multimedia Subsystem). Also Mesh networks are getting popular in these days because of their ease of deployment, low cost and

high flexibility. Therefore anyone who is interested in these technologies will get attracted to this dissertation by just looking at the title.

2.2 Dissertation Layout

Dissertation layout is systematic and carefully organized. The text is well decorated with pictures that help greatly in understanding the authors point of view. Also pictures are self explanatory and are labelled accordingly.

One thing I want to point out here is that, “List of Figures” points to some wrong page numbers for some pictures. Probably they need to be updated.

2.3 Scientific Method

The method used to write this report is quite scientific since it explains with reasons and relevant references are also supplied, if reader wants to have an in-depth knowledge, he/she can read further from the supplied reference.

2.4 Argumentation and Conclusions

As far as the argumentation is concerned, in “Introduction”, I came across some technologies like P2PSIP, DHT, WRT54GL, OpenWRT, Linyphone and Linyphi. It is quite possible that readers might not have relevant knowledge about these technologies, therefore it will be a good idea to provide relevant references against them. By doing so, anyone, if desires, can read specified material for better understanding.

Also there are some SIP proxies mentioned in chapter 3 i.e. stateful and stateless. It would be worthwhile if their brief explanation had been given here since authors have chosen to work with stateless SIP proxy.

But overall, good and meaningful argumentation and their conclusions are provided which shows that this report is written very systematically.

2.5 The Abstract

The Abstract successfully gives the basic theme of this dissertation. It covers about what authors want to do in this report, their introduction to solution and what they were managed to accomplish in the end with a meaningful reason.

2.6 Language Aspects

This report is written in English language which, I guess like me, is not the first language of authors of this dissertation. I have drawn this conclusion after reading and finding out several spelling and grammar mistakes. There are some places where i had to read two to three times to understand what they are trying to say but in the end it is not that much difficult to figure them out. These mistakes are mentioned in the end of this report.

Despite of this fact, the authors are successful in conveying their message without any other problem.

2.7 References and Sources

References are well provided in the dissertation but I found some problem in finding two of these references i.e. 25 and 42. Reference 25 is present in the “References” section, but it is not used. Also reference 42 is used in sections 2.1.2 page-6, 2.1.3 page-7 whereas it has no definition.

I also want to say one more thing that this dissertation mostly depends on reference 19, but unfortunately it is in German language, which as a matter of fact I cannot understand.

2.8 General Comments on the Project

Despite of some little problems, as mentioned in previous sections, this dissertation is carefully organized and authors have spent significant amount of time on writing it. And I felt interesting in reading this dissertation report.

My overall experience is on the positive side and I give this credit to the authors of this report.

3 Chapter by Chapter Evaluation of the Dissertation

3.1 Chapter 1

1. Lines 14 – 16 if explained a little bit more, will help in understanding what exactly is going to be done later.

3.2 Chapter 2

2.1.2. Reference 42 is invalid i.e. without its definition.

2.1.3. In heading, instead of using abbreviation, complete worlds will look more appropriate.

2.1.3. It will be better if third paragraph (consists of a single line) is explained a bit more.

2.1.3. One to two more lines about “structured P2P networks” are needed here.

2.1.3. Reference 42 is invalid i.e. without its definition.

2.1.4. What type of “dynamic network topologies”? Also can you please provide reference here.

2.1.5. Do you have any reference to LibIgor?

2.4.2. Write one or two lines about “closed proprietary protocol”.

3.3 Chapter 3

3.2. Can you give one or two examples in the last paragraph?

3.3. In second paragraph, why you didn’t choose stateful SIP proxy, a reason will be enough.

3.3. In second paragraph last line, can you write a little bit more or provide a reference about it.

3.5.1. Adding a related code snippet will be a good idea.

3.7.1. In “Figure 16”, “Host A” is sending request “Register B”, why? Shouldn’t it send request “Register A”?

3.7.3. First paragraph line-3, it will be more clear if you write what “this functionality” means.

3.4 Chapter 4

4.3.4. Second paragraph needs some references for OpenWRT releases.

4.7.1. Second last paragraph line-4, is it an assumption or wireless interfaces really ends with 29? Do you have some reference for that?

4.7.1. Last paragraph, can you please write NVRAM command for router?

3.5 Chapter 5

5.1. Paragraph 2, lines 1-3 are unclear.

3.6 General Comments on the Dissertation

Despite of some minor mistakes, overall work was interesting and both people worked hard to carry out all this stuff.

4 Final Comments

In the end, this was a very interesting dissertation and very nice project. And I enjoyed it opposing. Finally I want to say Good Luck to George and Jan and want to wish them for a nice presentation.

5 Corrections

Nr	Chapter	Page	Line	Mistakes	Corrections
1	Abstract	v	1	were	where
2	Abstract	v	4	purposed	purposes
3	Introduction	1	1	were	where
4	Introduction	1	4	purposed	purposes
5	Introduction	1	20	being	was of
6	2.1.2	6	3	overlaid a	overlaid on a
7	2.1.4	7	15	SSR have been	SSR has been
8	2.1.5	8	4	Linyphi use only	Linyphi uses only
9	2.1.5	8	20	interface in the	interface of the
10	2.2.2	11	18	network, were nodes	network, where nodes
11	2.3	11	21	2.1 were we	2.1 where we
12	2.3	11	26	allowing to users	allowing users
13	2.4.2	12	15	Skype use P2P	Skype uses P2P
14	2.4.2	12	16	Skype use a	Skype uses a
15	2.5	14	1	SSR implementation Linyphi	SSR implemented Linyphi
16	3.1	15	15	3.10 and 3.10	3.9 and 3.10
17	3.4.3	18	19	router which SSR	router whose SSR

Nr	Chapter	Page	Line	Mistakes	Corrections
18	3.4.3	18	21	router which SSR	router whose SSR
19	3.5.1	21	1	There are currently	There is currently
20	3.5.2	22	2	best distributes why	best describes why
21	3.5.2	22	14	addresses, were would	addresses, where would
22	3.6.1	26	7	we implement SIP	we implemented SIP
23	3.7.1	27	17	his/hers	his/her
24	3.8	31	25	to prepared the	to prepare the
25	3.8.5	32	13	may be breaking	may break
26	3.8.5	32	18	SIP URIs is	SIP URI is
27	4.2	34	21	the progress of	the process of
28	4.3.1	35	7	IPV6 software we	IPV6 softwares we
29	4.3.2	35	24	them this is	them is
30	4.3.2	35	27	one if the	one of the
31	4.3.4	36	25	extension Linyphi	extension to Linyphi
32	4.3.4	37	5	for more several	for some several
33	4.3.4	37	14	connections makes it	connections make it
34	4.4	37	25	time were spent	time was spent
35	4.4	37	28	needs be	needs to be
36	4.4	38	2	routers easier	routers easily
37	4.6	39	1	were unavailable to	were available to
38	4.7	39	8	Linyphi made this made	Linyphi made
39	4.7.2.1	42	2	Linyphi give performance	Linyphi gives performance
40	4.7.2.1	42	13	calculate are the	calculate is the
41	4.7.2.1	42	20	There are a	There is a
42	4.7.2.1	42	22	use no	use not
43	4.7.2.3	44	5	is essentially a small computer	are essentially small computers
44	5.2	50	15	made even longer	took more time
45	5.3	50	21	code were future	code where future
46	C	55	8	that was useful	that were useful