Exjobb opposition report

Reviewer name: Guan Wang

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Title: Context-Aware Networks: Policy Management

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I. Evaluation

Relevance of content: 4

Disposition: 3

Evaluation of published results: 3

Abstract: 3

Conclusion: - (not applicable since the conclusion chapter was missing)

Presentation of related work: 4

Language: 3.5

Generally, this was an interesting topic and a good report highlighting the policy management issues in Ambient Networks. The report gives a nice introduction to ambient networks and previous studies within the field of policy management. However, in several parts of the report, it was unclear whether the contribution came from this thesis or from previous studies. The most important aspect that the report should improve is regarding the methodology. The "red-line" through the report should be Objectives -> methodology -> conclusions.

II. Recommendations

- In the abstract, emphasize more on the results and the conclusions of your thesis. It should be clear what you have done. You could write something like: "The proposed architecture of the PMS consists of the following nodes ... A protocol used for communication between nodes in an AN with PMS is also proposed. The proposed protocol PMP ….. etc" Don't be too afraid of the length of the abstract, should be OK to write an abstract in one full A4 page. And remember to use the abstract to attract readers to get further information through reading the report!

- Footnotes could be very useful when explaining or clarifying some terms without taking place in the "actual" text. I found that there were some places where you could add footnotes to make it easier for the reader to follow.

- There is no Methodology chapter or section. In a scientific report, the methodology part is necessary for the readers (and examiner) to judge whether the results and conclusions you have reached are valid. I think it would be a good idea to add a methodology section at the beginning where you describe the approach you have chosen (i.e. Use-case modeling, programming, reviewing previous work etc).

- In chapter 1, section 1.3 should only contain the objectives of the thesis, put the descriptions of different chapters into a different section like: structure of report.

- Throughout the report, it should be clear what has been done before this thesis and what is done during this thesis. For example, did you design the PMP (policy management protocol)?

III. Detailed comments for the author

- Very nice and descriptive figures throughout the report. However, use the figure text to point out the highlight of the figure.

- In 2.4.3, you forgot to add the abbreviation of Context Manager (CM) FE.

- From the report, I learned that the goal of the AN is to make networks Context Aware on the network level (intelligent resource management etc). But does the AN framework also define service layer architecture or does it only support the service layer interface?

- In 3.1. Please rephrase "As shown in Fig 7, the Location Generator (LG) gathers the location of the Target creating Location Objects or in other words produces Location Information (LI) and publishes it to the Location Server (LS)." It is not clear which party is creating the Location Objects, is that the LG?

- In 3.3. Explain what a DHT-based X-Peer middleware is and what DHT stands for. Here it is a good place to use the footnote.

- In 3.2, you first shortly presented the IETF PBM framework and declared that it was inadequate to handle the dynamic nature of ANs. However, in 3.3, PBMAN was presented and it was also said that "PDN-Nodes can interact with other PDN-Nodes and PEPs via the P2P infrastructure, thus providing load balancing, fault tolerance, and scalability". PEP (Policy Enforcement Point) was a component of PMB, so does that mean that PBMAN is an extension of IETF PBM framework? Is the PBMAN work done with cooperation with IETF?

- What were the results of the previous studies of the PBMAN? In 3.3 you wrote "To analyse and test the effectiveness of the PBMAN approach, a video on demand service was implemented, modelled, deployed, and tested using the X-PBMAN prototype which is implemented using the X-Peer p2p middleware." What can we learn from the

PBMAN? Present the results of the tests and results. Did the service run smoothly? Did the added overhead due to the policy management system the performance?

- Has OASIS XACML been used in any existing systems?

- In section 4.3, rephrase "Applying the Request Response flow of the OASIS XACML and architectural elements for policy control, the basic requirements for a policy framework in AN for the scope of this thesis is as listed below". Moreover, the list is not consisted with "basic requirements"; it is rather consisted with "required nodes or entities".

- I really like Figure 12, it puts the things you've mentioned before together, connecting the entities with the PMS.

- Did you propose the PMS architecture (consisting PIP, AIP, PIB etc) or was it already there?

- Section 4.6 about use case, the subsections e.g. 4.6.1 is not a single use case. In the figures, each ring is actually representing a use case. For example, "Store and find related policy" is actually a use case itself. The figure is rather a collection of use cases and describes the requirements of a system or sub-system. Furthermore, if you want to describe each use case in detail, sequence diagrams can be used.

- Regarding the choice of transport protocol in section 4.7.1, the arguments of using UDP were based on the CXP. However, did you evaluate SCTP as well? Why is SCTP not a candidate as a transport protocol?