Regarding to the failure tolerance, Pure P2P and RELOAD have mechanisms to recover overlay network. Centralized architecture has the best service specification in satisfying service lookup cost while RELOAD gives quite a reasonable solution.

A single centralized server will be a single point of attacked target (also a single point of compromise) from intruders whereas Pure P2P and RELOAD prevent intruders from picking the attacked targets easily. Most essentially, RELOAD has several good specifications which are from a maintenance point of view, failure tolerance, and single point of compromise. It offers the acceptable service lookup comparing with Pure P2P. Note that the registration latency can be neglected since this step does not occur frequently as we have mentioned earlier.

It is interesting to note that in a large network, it would be useful to consider spatially close nodes only where RELOAD and Pure solutions should be implemented to provide more benefits in term of lookup cost since nodes are close to each other. The solutions can be used to reduce the communication cost better than Centralized solution (here the cost is fixed to $O(1)$). RELOAD and Pure solutions also offer more advantages in terms of maintenance personnel, failure tolerance and single point of compromise.

To conclude our chosen case study; the weather service sharing is an excellent example in showing that RELOAD is suitable to deploy for HS since the service lookup cost and speed are acceptable while we gain benefits of no maintenance personnel and high failure tolerance which are important in HS.

5. Conclusion and Future Work

In this paper, we introduced the concept of HS, and HS as a sharing service which will be a trend for the future services. We stated the issue of localize sharing HS in different topologies among three different network architectures. We proposed the delivery of HS using RELOAD architecture. Advantages and disadvantages were summarized. We found that HS sharing using RELOAD offers several benefits and is suitable for our case study that is the weather report service sharing. The reliability and efficiency are high while service cost and speed are reasonably acceptable.

In addition, the knowledge gained from our case study can be extended to other HS that has similar service requirements and service specifications. For further study we could consider other different aspects. Analyzing and evaluating these aspects should be done with the user security included authentication and the authorization in the decentralized way in order to thoroughly protect the service communities.

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