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Topology Discovery in Autonomic Networks
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Generally, it is hard network management entities to keep the pace of the growing infrastructure. In the early 2000s, IBM introduced the concept of autonomous system which achieve self-management. In this seminar, speaker talked about the network introduced by NMR G and anima.

The NGR G focused on achieving self-management, self-organizing, self-healing, self-protecting, and self -optimizing network. The focus on to reduce the influence of human administrative element in network management. Topology discovery is the process of collecting and processing the information of the node across the network. Topology discovery is costly task and consumes a lot of time. Not all the topology networks are compatible with autonomous network. The speaker talked about the thesis goal that he will be evaluating the methods are suitable for autonomous network and will be reducing the number of messages that are exchanged. Further speaker talked about autonomous network in terms with global view where he talked about the layered structure. So, in Application network infrastructure (ANI), there were multiple Autonomic control plane (ACP) which have multiple Autonomic service agent (ASA) and node. Moreover, he discussed about the from node POV scenario. There are some protocols to support the goals and ideas by NMR G like Grasp protocol. Further speaker talked about the security inside the network and that can be achieved with BRSKI. In BRSKI, there is pledge device, MASA authorising signing authority. Two ways to created design of topology discovery like distributed topology discovery and centralised topology discovery. For distributing approach, generally clustering method is used. Speaker then discussed about the clustering methods like one-hop. In clustering approach, in the beginning all nodes are weighted exchange phase. It will talk to its neighbour actually to exchange the weights.

Speaker compared result of distributed methods where he found that if all the nodes inside the network start with exact same time, then there is no knowledge of neighbour. At last , he talked about the maintenance where he discussed about the push model, neighbour observation, two cluster heads, and roles of the nodes is an important factor in maintenance. For his future work, speaker talked about that he will be optimizing the clustering by selecting better local cluster heads and letting registrar take care of clustering.