Agenda

* IETF CSO Effort Background
  + Created IETF mailing list: [cso@ietf.org](mailto:cso@ietf.org)
  + Public Archive: <http://www.ietf.org/mail-archive/web/cso>
  + CLO -> CSO (name change)
  + CSO := {NS Query, NA-ARAM]
    - NS Query = Network Stratum Query
    - NA-ARAM = Network Aware Application Resource Assignment and Mobility
* Network Aware Application Resource Assignment and Mobility (NA-ARAM)
* NS Query – Cross Stratum Query

Discussion:

Ray Katchum (intel): You have talked a great deal of data center devices. A lot of this information applies to the end host.

Ning So: We are trying to focus down to the narrow focus. The host was the not the immediate host stack.

Ray Katchum (intel): This work applies to the host. If you look at optimizations on both ends, if the end host becomes network-aware it can solve the data center issues.

Daniel King (individual): Focusing on the very specific problem is a focusing down a bit further. Should we focus it down a bit further for a geographical information on a servers? One problems we have in the IETF is that there is a lack of coordination with other servers.

Young Lee: Geographic preference could be an important factor for several factors. Your application of government servers is also a compelling one.

Daniel King (individual): If you go to Amazon.com, you can request a particular server. A great deal of the

Ning So: Another draft I’m working on specifies a private cloud that has geographical requirement. I think you are correct that geographical location can .

I found that a Swiss bank moved onto a cloud, and then found out their data was in Germany. They pulled back from the cloud. Another example, is the application of this to medical records.

[name]: You might want to change all the expectations?

Ning So: If the information is available in a certain location, when the application queries this information it may need a small pieces.

[name] As a developer, I do not have a clue on what is on the network.

Ross: Do you know what your requirements are?

Greg: That is one of the key pieces of information. You know what the type of bandwidth or other parameters. You want to say I need this information from three location, but you do not want to know the specific link by link bandwidth. You want an abstracted information.

[person]: You want to have information that you can get for “best effort”, and \_\_\_\_\_

Greg: There is best effort for me to get 2 MB. I expect 2MB

Ross: IP Forwarding does not mean that 2MB is not best effort.

[person]: This is already done if you want a general service.

[Dave Dysan]: From an application, they look at the information from a user viewpoint. I want through-put of a certain amount of bandwidth.

Ning So: You want to use application layer language to specify the needs. We want to translate to/from network layer.

[xxx]: I look for an API that provides.

[Ross]: A lot of application will only know about a few application requirements?

[xxx]: Application just translate between devices without.

[Dave King]: Applications struggle to just get IPv4/v6. We need have a simple interface.

[xxx] We need to tell the application developers so they can use this.

[Dave King]: Is this a local venue, or a global cloud set of information? I am interested in having the application signal into the network.

Ning So: This type of functional will be adopted by “premium” service customers. Dealing with financial or trading company, these companies are very focused on optimizations that improve things 2-3 ms. Medical centers are very focused on which medical centers. After these premium services are deployed, they will expand to other customers.

Young: The two industries of financial or medical services. They may gain or they pay a fixed amount. We believe that this service needs to focused on premium quality services. The web services are not key to this point. After talking to a few carriers, the user will also pay for mobility.

Ning So: One side of the story is that the cloud providers support premium. The second side of the story is the VM movement in the cloud. You have many layers of pre-defined restoration for movement. You find you have duplicate restoration services. The server is not at the same quality as a router. If you can delay the duplicate restoration, you can reduce the network cost.

Dave King: Who is the benefactor? There is a combination of these services. Is this helping the customer and carrier?

Ning So: This is helping both customer and carrier. Security have some issues for some customers. However, let’s start out with the customers who are not security based. In these customers, service interruption costs. Large amounts of redundant restoration cost money. Companies are doing the restoration configuration in a manual process. For example, a customer will buy duplicate physical lengths which is physically diverse. They send 4 different, and toss away nodes.

[xxx]: You are describing how the network quality you want that is high. How can this help?

Ning So: If you can reduce this redundancy, you can reduce the cost. If you can get the same Chicago to New York,

[xxx]: How do you do this? How can you guarantee?

Ning So: If you have the requirement for statistics, you can pre-define two paths. The network can move between the two paths to provide the service.

Mia

[xxx]: Today many of the guarantees are done on the network via manual configuration. If the network has a problem, the end-user know the network can provide. The end-user has to buy 4 different paths to ensure at the application layer the SLAs. If this network technology exists, then the user does not have to pay for the information.

[Young]: We start with a much more detailed description of SLAs. Right now, we do not support a higher layer SLA using this dynamic function. The carrier who provides the dynamic SLA will be the person to have the customers.

[josh]: OGF there are good FMAP from the Trusted user.

[sue’s comment on SNMP, OAM, netconf.

Greg: There is lots on the APS side, but not much on the network. These guys have the Apps on the network. They do not provide an input on the OGF. This would be a survey. Radio-astromony asked for bandwidth on the network.

Oscar: When talking to the people who are in charge of connectivity to the data center. They were not ready to set up connections or traffic on demand. It is important to extend this to the data on demand. Focusing on the data center or multiple data center is a good focus. These multiple topologies are just a network layer. There are two problems: 1) what is available/not-available, and 2) once you know the connection/bandwidth setting up the paths. We are trying to avoid the

[Josh]: Is this a single Administrative domain? Or Multiple Administrative Domain?

Young: This diagram shows a single Ad with multiple Subnets. In the future we may.

Most of room indicates they are interested to continue.

Attendees:

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