# Minutes NSI-WG conf call 8 Oct 2014

***Attendees:***

Tomohiro K

Henrik T

Hans T

John M

Chin G

Freek D

***Apologies:***

Guy R

Miroslav Z

***Agenda:***

* Review John’s URN proposal.

***Outstanding APs from previous meetings:***

**AP**: John, Kostas, and other NSA implementers need to determine their specific TLS behaviours with respect to provisioning of individual certificates and CA. (done by Kostas)

**AP**: John to update self-signed cert slides based on feedback from previous action.

**Actions from Uppsala:**

**AP1:** John to summarise on whether there is a need to allow an AG to behave differently depending on who it is peering with. Document and send to list for discussion.

**AP2:** John to tidy up NSA description document and submit for public comment.

**AP3**: John/Hans to review the connection traceId and security attribute list proposals and come up with an agreement and update the document.

**AP4**: A document is needed that describes how to create a service definition – this was dropped out of CS document.

**AP5**: John to update NSI extension to NML with the Chin STPiD.

**AP6:** A team to be created to investigate mixed tree/chain modes and if these should be supported. (Status: assigned to implementation team and closed)

***Minutes:***

1. Agreement was made to wait until after SC2014 for any planned URN conversions.
2. John presented a draft of the network and STP identifier proposal as discussed at the NORDUnet conference. An exciting discussion ensued with a heated debate. I have included below the revised proposal based on comments from the call. Please read it over to make sure we are in agreement.
3. Freek decided he would #SYAP (Submit Yet Another Proposal) for URNs to keep the local part opaque as per the NURN specification. He was thoroughly stoned by an agitated NSI working group. Proposal promised for Friday October 10th if he had recovered from the stoning. It has not come out so I guess he is still nursing his wounds.

Next call: 15 Oct 2014.

***Action Points:***

None

**REFERENCES**

[RFC2141] Moats, R., "URN Syntax", RFC 2141, May 1997.

[RFC2141bis] Sait-Andre, P., "Uniform Resource Name (URN) Syntax", draft-ietf-urnbis-rfc2141bis-urn-07, January 2014 (Expired).

[RFC5890] Klensin, j., "Internationalized Domain Names for Applications (IDNA): Definitions and Document Framework", RFC 5890, August 2010.

[RFC6453] Dijkstra, F., "A URN Namespace for the Open Grid Forum (OGF)", RFC 6453, December 2011.

[GFD202] van der Ham, J., "A URN Namespace for Network Resources", GFD.202, April 2013.

**Network and STP identifier Syntactic Structure**

A network resource URN (NURN) identified by the "urn:ogf:network:" prefix is defined in [GFD202].  NSI utilizes NURN formatted URNs in the P2P service definition, and within NML topology describing NSI network constructs.  The NSI Connection Service Protocol specification [OGF-NSI-CS] puts a specific requirement on the Service Termination Point Identifier (stpId), defining the stpId as a three-part identifier composed of a network identifier part, a local identifier part, and a qualifying label part:

        <STP identifier> ::= <networkId> “:” <localId> <label>

        <label> ::= “?” <labelType> “=” <labelValue> | “?”<labelType> | “”

        <labelType> ::= <string>

        <labelValue> ::= <string>

To maintain syntactic correctness with the NURN specification such that an stpId is also a valid NURN formatted URN, we define a specific Augmented BNF [RFC 5234] to restrict the format of the NSI Network and STP identifiers such that they remain NURN compliant, but provide the needed imbedded structure for separating the networkId and localId components.  To to do this we must also relax the following NURN restriction: "OPAQUE-PART is opaque, and must not be parsed or interpreted by any organization except for the organization that assigned the URN."  NSAs within the connected control plane are permitted, when needed, to parse an NURN into component parts as defined below.

NSAID = "urn:ogf:network:" ORGID ":" LOCALPART

NETWORKID = "urn:ogf:network:" ORGID ":" LIMITEDLOCALPART

        STPID = NETWORKMEMBER

SERVICEDOMAINID = NETWORKMEMBER

SERVICEADAPTATIONID = NETWORKMEMBER

SERVICEDEFINITIONID = NETWORKMEMBER

        ORGID = FQDN ":" DATE ; ID of assigning organisation

        FQDN = 1\*(ALPHA / DIGIT / "-" / ".") ; Domain name

        DATE = YEAR \*1(MONTH \*1DAY) ; Date of creation of ORGID

        YEAR = 4DIGIT

        MONTH = 2DIGIT

        DAY = 2DIGIT

        LIMITEDLOCALPART = \*(ALPHA / DIGIT / SYMBOL)

        ALPHA =  %x41-5A / %x61-7A   ; A-Z / a-z

        DIGIT =  %x30-39 ; 0-9

        SYMBOL = "+" / "," / "-" / "." / ";" / "=" / "\_"

NETWORKMEMBER = NETWORKID ":" LOCALPART \*1QUERY \*1FRAGMENT ;

        LOCALPART = \*(ALPHA / DIGIT / OTHER)

        OTHER = ALLOWED / EXTENSION

        ALLOWED = "+" / "," / "-" / "." / ":" / ";" / "=" / "\_"

        EXTENSION = "!" / "$" / "(" / ")" / "\*" / "@" / "~" / "&"

        QUERY = "?" \*QFCHAR

        FRAGMENT = "#" \*QFCHAR

        QFCHAR = ALPHA / DIGIT / OTHER

The full length of an ID must not exceed 255 characters as defined in [GFD202].

**ALLOWED** and **SYMBOL** characters may be used for the assignment of NURNs. **EXTENSION** characters should not be used to assign NURNs. To allow for future extensions, parsers should accept NURNs with **EXTENSION** characters as per [GFD202].

The **QUERY** part is used by NSI to specify technology specific labels as part of the NURN as per [OGF-NSI-CS].

The **FRAGMENT** parts must not be present in any assigned NURN and is reserved for future standardization as per [GFD202].

An NURN must not contain percentage-encoded characters ("%" HEXDIG HEXDIG). It should also be noted that the following characters (which are either allowed by the URI or URN specification) must not be used in the **LOCALPART** or **LIMITEDLOCALPART** of an NURN: "%", "/", "?", "#", and "'".

**DOMAIN** is a fully qualified domain name (FQDN) of the URN assigning organisation in LDR format [RFC5890]. Valid examples are [example.net](http://example.net/) and example.xn--jxalpdlp.

**DATE** is a date (either year, year+month or year+month+day). The combination of **DOMAIN** and **DATE** forms the organisation identifier, **ORGID**.

**Examples**

The following are examples of legal network identifiers:

1. urn:ogf:network:grnet.gr:2013:topology

2. urn:ogf:network:surfnet.nl:1990:production7

3. urn:ogf:network:caltech.edu:

The following are examples of illegal network identifiers:

1. urn:ogf:network:es.net:2013

2. urn:ogf:network:cipo.rnp.br:2014

3. urn:ogf:network:example.net:2013:production:east

In example #1 and #2 there is no following colon after the **DATE** component.  This is required even when there is no **LIMITEDLOCALPART**.  In example #3 the **LIMITEDLOCALPART** contains a colon ":" which is not a member of the character set.

The following are examples of legal STP identifiers for a network identifier of "urn:ogf:network:example.net:2013:topology":

1. urn:ogf:network:[example.net](http://example.net):2013:topology:CLIENT\_port

2. urn:ogf:network:[example.net](http://example.net):2013:topology:EAST\_PORT\_TO\_CUSTOMER:in

3. urn:ogf:network:[example.net](http://example.net):2013:topology:PORT+TO-CUSTOMER:east:bidirectional

The following are examples of legal STP identifiers for a network identifier of "urn:ogf:network:example.net:2013:":

1. urn:ogf:network:[example.net](http://example.net):2013::CLIENT\_port

2. urn:ogf:network:[example.net](http://example.net):2013::EAST\_PORT\_TO\_CUSTOMER:in

3. urn:ogf:network:[example.net](http://example.net):2013::PORT+TO-CUSTOMER:east:bidirectional

The following are examples of illegal STP identifiers for a network identifier of "urn:ogf:network:example.net:2013:topology":

1. urn:ogf:network:example.net:2013:client\_port

2. urn:ogf:network:example.net:2013::client\_port

2. urn:ogf:network:example.net:2013:topology:client\_port:xe-8/2/0:\*

In example #1 and #2 the network identifier's **LIMITEDLOCALPART** is missing from the STP identifier.  In example #3 the "/" and "\*" characters are illegal **LOCALPART** characters based on the NURN definition.