

Global Lightpath Identifiers Naming Scheme

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1 Introduction

Currently, each domain uses its own identifiers for lightpaths that span multiple domains. This makes it difficult to refer to the same lightpath during the provisioning phase, in case of outages or when announcing planned work. There is a need to assign one identifier to each lightpath and this identifier should be used by all domains in communication with respect to the lightpath. This identifier is called the Global Identifier of a lightpath.

Global identifiers complement the local naming schemes that are in use in the various domains. It is assumed that most domains will use the global identifiers as aliases for their local names.

At the GLIF Working Group Meeting in January 2008 in Honolulu the GLIF community decided to set up a task force to work on a global lightpath identifier scheme. The task force consists of Ronald van der Pol (leader), Lars Fischer, Tom Lehman and Thomas Tam. At the 8th Global LambdaGrid Workshop in October 2008 in Seattle several naming schemes were discussed. There was rough consensus for a simple naming scheme that can be used for operational procedures now and that can be extended later to a URN based naming scheme. In this document the chosen naming scheme for global identifiers is described.

2 Naming Scheme

Global identifiers are assigned to a lightpath by the *sourcing organisation* during setup. The sourcing organisation is described in [1].

The Global identifier naming scheme is defined as follows:

`<global identifier> ::= <domain part> ":" <local part>`

The *domain part* is a DNS-like name identifying the sourcing organisation. It must be a valid domain name as described in RFC 1034, e.g. netherlight.net. The *local part* is set by the sourcing organisation and must be unique within its domain. The local part must satisfy these rules:

- Only alpha-numeric, hyphen (-) and period (.) are allowed
- The underscore character (_) is not an allowed character
- No blank or space characters are allowed
- No distinction is made between upper and lower case
- The local part should start with a letter or a number

The total length of the global identifier should be at most 64 characters. No distinction is made between upper and lower case, so these three examples identify the same lightpath:

- NETHERLIGHT.NET:2161LE
- NeThErLiGhT.NeT:2161Le
- netherlight.net:2161le

3 URN Based Extension

The naming scheme described in section 2 can easily be expanded to a URN like naming scheme as standardised in RFC 2141 by prepending it with a urn prefix.

The format of this extended naming scheme is:

`<URN> ::= "urn:" <NID> ":" <NSS>`

where `<NID>` is the Namespace Identifier, and `<NSS>` is the Namespace Specific String.

For GLIF global identifiers the NID could be set to *glif*, *ogf*, or similar. The `<NSS>` is set to the identifier described in section 2.

References

- [1] The ordering and fault resolution process for multi-domain Lightpaths across hybrid networks, <http://www.glif.is/working-groups/tech/fault-resolution-0.9.pdf>, Rene Hatem and Almar Giesberts and Erik-Jan Bos, (2006)