LISP-DDT XFR
draft-wiley-lisp-ddtxfer-01

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What Problem?

• Currently few LISP-DDT nodes in service

• LISP-DDT root configuration ride has been a little bumpy

• How will the current approach scale in both depth of hierarchy, number of DDT nodes?
Current LISP-DDT Configuration

• Current LISP-DDT root configuration
  – Does this format scale to large data sets?
  – Does it scale to high node count?
  – Operationally robust?

• Standards for handling the file is one possible solution.
Current LISP-DDT Root Config

```
lisp ddt
lisp ddt child 158.38.1.91 instance-id 223
lisp ddt child 173.36.254.167 instance-id 223
lisp ddt child 158.38.1.91 instance-id 0 eid-prefix 153.16.0.0/16
lisp ddt child 173.36.254.167 instance-id 0 eid-prefix 153.16.0.0/16
lisp ddt child 158.38.1.91 instance-id 0 eid-prefix 2604:a800:1::/48
lisp ddt child 173.36.254.167 instance-id 0 eid-prefix 2604:a800:1::/48
lisp ddt child 158.38.1.91 instance-id 0 eid-prefix 2610:d0::/32
lisp ddt child 173.36.254.167 instance-id 0 eid-prefix 2610:d0::/32
lisp ddt authoritative-prefix *
```
World Peace!

• LISP-DDT XFR is offered as one possible solution

• draft-wiley-lisp-ddtxfr describes the protocol used to accomplish the transfer of the delegated portion of the LISP-DDT tree

• Modeled after DNS zone transfers
DNS

• DNS faced with similar problem
• DNS zone is a *portion* of the DNS tree
• AXFR = entire zone is transferred
• IXFR = deltas are transferred (based on SN)
• NOTIFY is used to advise name servers of changes to zone
Terminology

• LISP-DDT entry is a mapping between an Extended-EID prefix and an RLOC for a map server or DDT node

• LISP-DDT XFR server: device receiving XFR request

• LISP-DDT XFR client: device sending XFR request
Six easy pieces

• DDT nodes implement LISP-DDT XFR in order to exchange pieces of the DDT tree

• Transfers are as granular as the delegation of authority

• Serial number identifies a unique version of the delegated portion of the LISP-DDT tree
Six easy pieces (continued)

• Full transfer sends all DDT entries for the delegated portion of the tree

• Incremental transfer sends only DDT entries that have changed

• LISP-DDT XFR client may subscribe to LISP-DDT XFR server and be notified of changes to tree
Is IXFR harmful to your health?

• LISP-DDT XFR client tells LISP-DDT XFR server which SN it has
• LISP-DDT XFR server replies with a transfer that includes deltas between client SN and current SN
• OR server replies with a full transfer
• Deltas are optional for server – the server may choose to maintain as many (or as few) deltas as is operationally sensible
Next Steps

• Continue to collect data from ongoing LISP-DDT implementation

• Incorporate LISP-DDT SEC

• Reference implementation