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The IPtX Domain Name System (DNS), and the DNS Requirements for the 'IPtX' IP Addressing Protocol 'Family' Specification

Status of this Memo

Conventions

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Abstract

This paper defines the changes as would be required for the Domain Name System (DNS) to support the Network(s) IP Addresses assigned and listed using the Globalnet's Backbone, which are defined by the IPtX IP Addressing Protocol Family Specification. Furthermore, notwithstanding the requirements necessitated by change, this presentation retains the current Communications Protocol Specifications, which are currently used for the DNS Query in the IPv4 Specification. And while the DNS Service for the IPt1 Specification is identical to the IPv4 Specification. However, because the other IP Addressing Protocols define within the IPtX Protocol Specification requires the use of Prefixes, which change the Header Size Specification. The implementation of these IP Addressing Systems, while using the same Communications Protocol Specifications, nevertheless, redefines the Structure for the Naming Convention used in the DNS Hierarchy. Even still, asides from the clarity, referencing the RFC's governing the DNS Service Specifications will be somewhat limited. This is because the overall functions, and their respective Definitions for the IPv4 DNS Specification will not change in the IPtX DNS Specification. Hence, the objective this paper specifically maintains concerns only the presentation of the Subject-Matter relating to the change in the DNS Service(s), resulting from the implementation of the IPtX IP Addressing Protocol Specification.

In other words, the paper does not represent a replacement for any of RFCs, which implemented the DNS Services. It should nonetheless, be considered an extension, which focuses upon the changes in the DNS Services resulting from the implementation of the IPtX IP Protocol Specification.

"This work is Dedicated to my first and only child, 'Yahnay', who is; the Mover of Dreams, the Maker of Reality, and the 'Princess of the New Universe'. (E.T.)"

I's Conclusion!

In your Re-Makings Consider the hours spent. All the fuss and the clamor. Frustrating the Sense, with A Non-Sense. Perhaps, A Paradigm Re-Making the Wheel. What a contestation in wishing! Beauty So it seems; The Who is, and the who is not ...is Not so alone in the Dreams of Dreams. But! Must it be Intelligence Too? Allowing Only Eyes to Reason. Announcing the preference of Choice! Supplanting the Mind, indeed. Well! If the Dark can hide the Fine the Face of Beauty, then Eye Reason; 'Intelligence is the Frustrating Sense of Non-Sense. Since... the Blind, is Leading'. (et 2002)

Chapter I: Current Specifications: The IPv4 DNS Server and the IPt1 Specification

The abbreviation 'DNS' is the acronym use for Domain Name System, which represents a Data Base system using a Hierarchical Naming Convention that uses the Names Networked Computers and Network Services in a Hierarchy of Domains Organized to resolve their Names and IP Addresses. The DNS Services was derived specifically for use in TCP/IP Networks using the Internet thoroughfare, which is used to locate Computers and Services using an alpha character name associated with an IP Address. That is, when a user or an application, for example, requires the IP Address of either a Computer, Network, or Network Service, the DNS Service only requires the Alpha Character Name of required Networked System or Device, to Resolve it's IP Address (Or the converse). Furthermore, it should be understood, these Names, usually called 'Friendly Names', which are assigned to these Networked Systems and Devices, can be composed of either an Alpha or a Numeric Character Content, or some combination relating thereto. Because what the DNS Services does is specify a Naming format using Dotted structure similar to an IP Address, which uses a 'Friendly Name' assigned by the User that is prefixed with 'WWW' and Suffixed with a TAG. This method is used to facilitate the location of Data Base Records that are used to Map an IP Address to Name, or the Name to an IP Address, which are used to determine the location of the Networked Device. In other words, Hierarchy of Domains maintained in the DNS Services Data Base assigns the Networked Computer or Service to a Record, which is then Indexed to discover location of the Devices connected to the Internet's Backbone.

```
                   EX. 1

                  US Root {Internet Root, Top Level Domains}
                     :
                     ^
                     |
                    / \
                 /  / \  \
              /  /  / \  \  \
            /  /  /  |  \  \  \
           /  /  /   |   \  \  \
          /  /  /    |    \  \  \
         /  /  /     |     \  \  \
        /  /  /      |      \  \  \
       /  /   \      |      /   \  \
   .com .edu .gov  .int  .mil .net .org  {Flat Space Naming Convention, Second
               |                          Level of the Hierarchy, which list
              / \                         the Naming Tags assigned to the end
             /   \                        of the 'Friendly Names'.}
         DOJ/     \DOD
           /\     /\
          /  \ Home Land Security
         /    \     \
        /      \     \
      FBI       \     Office of Internal Affairs
                 \
             Supreme Court
```

Nevertheless, to clarify the DNS Naming Architecture, I chose an excerpt from RFC 1032 that can used to Define the Top Level Domain Names:

"WHICH DOMAIN NAME?

The designers of the domain-naming system initiated several general categories of names as top-level domain names, so that each could accommodate a variety of organizations. The current top-level domains registered with the DDN Network Information Center are ARPA, COM, EDU, GOV, MIL, NET, and ORG, plus a number of top-level country domains. To join one of these, a DA needs to be aware of the purpose for which it was intended.

"ARPA" is a temporary domain. It is by default appended to the names of hosts that have not yet joined a domain. When the system was begun in 1984, the names of all hosts in the Official DoD Internet Host Table maintained by the NIC were changed by adding of the label ".ARPA" in order to accelerate a transition to the domain-naming system. Another reason for the blanket name changes was to force hosts to become accustomed to using the new style names and to modify their network software, if necessary. This was done on a network-wide basis and was directed by DCA in DDN Management Bulletin No. 22. Hosts that fall into this domain will eventually move to other branches of the domain tree.

"COM" is meant to incorporate subdomains of companies and businesses.

"EDU" was initiated to accommodate subdomains set up by universities and other educational institutions.

"GOV" exists to act as parent domain for subdomains set up by government agencies.

"MIL" was initiated to act as parent to subdomains that are developed by military organizations.

"NET" was introduced as a parent domain for various network-type organizations. Organizations that belong within this top-level domain are generic or network-specific, such as network service centers and consortia. "NET" also encompasses network management-related organizations, such as information centers and operations centers.

"ORG" exists as a parent to subdomains that do not clearly fall within the other top-level domains. This may include technical-support groups, professional societies, or similar organizations.

"INT" exists as a parent to subdomains that do not clearly fall within the other top-level domains. This may include International organizations, such as NATO [9].

One of the guidelines in effect in the domain-naming system is that a host should have only one name regardless of what networks it is connected to. This implies, that, in general, domain names should not include routing information or addresses. For example, a host that has one network connection to the Internet and another to BITNET should use the same name when talking to either network. For a description of the syntax of domain names, please refer to Section 3 of RFC-1034."

Nevertheless, while I could continue quoting from the various RFCs outlining the requirements for the DNS Services (RFC: 1032, 1033, 1034, 1101, 1591, 1886, 2065, etc). However, since there is absolutely No change with the implementation of the IPt1 Specification from that required by the IPv4 Specification, it would be redundant to continue. In other words, barring the differences in their respective Addressing Schematics, these IP Addressing Specifications are Mirror Images, which represents the same methods for the Default IP Addressing format (See Tables 1 and 2). And while the IPt1 Specification maintains a greater Sub-Division of the Classes within the Address Class System, the benefits gained here does not translate into additional costs for the Consumer. In fact, this Addressing Specification [1], can be viewed initially, as an Accountability benefit for IANA, and as an additional Resource of IP Addresses for InterNIC.

Needless to say, while the expansion of the CIDR Architecture [6] (Figures 1 and 2), offers alternatives to the Header Design. It also maintains the same sub-divisional capabilities for the Records use for the DNS Services. However, this benefit would pale in comparison to that achieved with the IP Addressing Schematic. This is because the overall benefit is limited (At least in the Case for the IPt1 Specification) to the DNS Lookup Dealing Specifically with the IP Address. In other words, while there is no mandate specifying a change to the current specification. The benefits of using the CIDR Network Descriptor in the Definition (Naming) of the any DNS Records identifying the IP Address would allow a further sub-division, which would reduce the search time when the IP Address is known and the Name of the Networked Device is sought. But still, this would only reflect a partial benefit, which does not (At least not now) maintain any viable grounds that would justify a change in the current DNS Record Configuration.

Figure 1

IP Header for IPv4 and IPt1

```
0                   1                   2                   3

0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
| VER  |  IHL  | TYPE OF SERVICE |  TOTAL LENGHT               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
| IDENTIFICATION                 |FLA|    FRAGMENT OFFSET      |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|  TIME TO LIVE  |  PROTOCOL   |      CHECK SUM HEADER         |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                          SOURCE ADDRESS                     |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                   DESTINATION   ADDRESS                     |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             OPTIONS                         |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             DATA                            |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|-------------------------------------------------------------|
```

Figure 2

IP Header for IPt1

```
0                   1                   2                   3

0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
|  IPt1  |  IHL  | TYPE OF SERVICE |  TOTAL LENGHT             |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
| IDENTIFICATION                 |FLA|    FRAGMENT OFFSET      |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|  TTL |  PROTOCOL |  /XXXX:XX |      CHECK SUM HEADER         |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                          SOURCE ADDRESS                     |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                   DESTINATION   ADDRESS                     |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             OPTIONS                         |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             DATA                            |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|-------------------------------------------------------------|
```

Figure 2-A

DNS Header for IPv4 and IPt1

```
0                   1                   2                   3

0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
|Identification | QR |Opcode |AA |TC |RD| RA |Z| AD |CD Rcode |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|     Total Questions         |        Total Answer RRs        |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|    Total Authority RRs      |    Total Additional RRs        |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                       Questions                               |
|                           :::                                 |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                       Answer RRs                              |
|                           :::                                 |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                       Authority RRs                           |
|                           :::                                 |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                      Additional RRs                           |
|                           :::                                 |
|---------------------------------------------------------------|
```

Figure 2-B

DNS Query for IPv4 and IPt1

```
0                   1                   2                   3

0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
|                        Query Name                             |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                           :::                                 |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                           :::                                 |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|             Type            |            Class                |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                           :::                                 |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                           :::                                 |
|---------------------------------------------------------------|
```

Figure 2-C

DNS Resource Record for IPv4 and IPt1

```
0                   1                   2                   3

0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
|                            Name                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|             Type              |          Class                |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             TTL                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|              Rdata            |         Length Rdata :::      |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             :::                               |
|---------------------------------------------------------------|
```

Table 1

Structure Decimal of the IPv4 Representation IP Class System

1. Class A: 1 - 126, Default Subnet Mask 255.x.x.x:
   126 Networks and 16,387,064 Hosts: 0

2. Class B: 128- 191, Default Subnet Mask 255.255.x.x:
   16,256 Networks and 64,516 Hosts: 10

3. Class C: 192 - 223, Default Subnet Mask 255.255.255.x:
   2,064,512 Networks and 254 Hosts: 110

4. Class D: 224 - 239; Used for Multicasting, No Host: 1110
   16 x 254^3 = 262,192,024 IP Addresses available

5. Class E: 240 - 254; Denoting Experimental, No Host: 11110
   15 x 254^3 = 245,805,960 IP Addresses available

Table 2

"Reality of the Mathematical Addressing Schematic for the
'IPt1' Addressing System Using the Modern Binary System."
(Where the Value for the variable 'Y' is given by the Laws
of the Octet, and the System contains 4.145 x 10^9 Addresses.)

1. Total IP Addresses for Class A = 126 x 254^3 = 2,064,770,064
   Total available IP Addresses for Class A = 126 x 254^3
   Total available IP Host Addresses Equals 126 x 254^N
   (Where N = Number of Octet, and 'Y' equals the Address
   Range '128 - 254', 1 - 126 is not included in the
   Address Range Represented by the equation
   'Y = 254 - 126'.)

   Class A-1, 1 - 126, Default Subnet Mask 255.y.x.x:
   1,040,514,048 Networks and 8,129,016 Hosts: /00:08

   Class A-2, 1 - 126, Default Subnet Mask 255.255.y.x:
   516,160,512 Networks and 32,004 Hosts: /00:16

   Class A-3, 1 - 126, Default Subnet Mask 255.255.255.y:
   256,048,128 Networks and 126 Hosts: /00:24

   Class A-4, 1 - 126, Default Subnet Mask 255.255.255.255:
   252,047,376 Network / MultiCast IP Addresses / AnyCast: /00:32

2. Total IP Addresses for Class B = 64 x 254^3 = 1,048,772,096
   Total available IP Addresses for Class B = 64 x 254^3
   Total available IP Host Addresses Equals 64 x 254^N
   (Where N = Number of Octet, and 'Y' equals the Address
   Range '254 - Q'; 128 - 191 is not included in the
   Address Range Represented by the equation
   'Y = 254 - 64'.)

   Class B-1, 128 - 191, Default Subnet Mask 255.y.x.x:
   784,514,560 Networks and 4,129,024 Hosts: /10:08

   Class B-2, 128 - 191, Default Subnet Mask 255.255.y.x:
   197,672,960 Networks and 16,256 Hosts: /10:16

   Class B-3, 128 - 191, Default Subnet Mask 255.255.255.y:
   49,807,360 Networks and 64 Hosts: /10:24

   Class B-4, 128 - 191, Default Subnet Mask 255.255.255.255:
   16,777,216 Network / MultiCast IP Addresses / AnyCast: /10:32

3. Total IP Addresses for Class C = 32 x 254^3 = 524,386,048
   Total available IP Addresses for Class C = 32 x 254^3
   Total available IP Host Addresses Equals 32 x 254^N
   (Where N = Number of Octet, and 'Y' equals the Address
    Range '254 - Q'; 192 - 223 is not included in the
    Address Range Represented by the equation
           'Y = 254 - 32.)

   Class C-1, 192 - 223, Default Subnet Mask 255.y.x.x:
   458,321,664 Networks and 2,064,512 Hosts: /110:08

   Class C-2, 192 - 223, Default Subnet Mask 255.255.y.x:
   57,741,312 Networks and 8,128 Hosts: /110:16

   Class C-3, 192 - 223, Default Subnet Mask 255.255.255.y:
   7,274,496 Networks and 32 Hosts: /110:24

   Class C-4, 192 - 223, Default Subnet Mask 255.255.255.255:
   1,048,576 Network / MultiCast IP Addresses / AnyCast: /110:32

4. Total IP Addresses for Class D = 16 x 254^3 = 262,193,024
   Total available IP Addresses for Class D = 16 x 254^3
   Total available IP Host Addresses Equals 16 x 254^N
   (Where N = Number of Octet, and 'Y' equals the Address
    Range '254 - Q'; 224 - 239 is not included in the
    Address Range Represented by the equation
            'Y = 254 - 16'.)

   Class D-1, 224 - 239, Default Subnet Mask 255.y.x.x:
   245,676,928 Networks and 1,032,256 Hosts: /1110:08

   Class D-2, 224 - 239, Default Subnet Mask 255.255.y.x:
   15,475,712 Networks and 4,064 Hosts: /1110:16

   Class D-3, 224 - 239, Default Subnet Mask 255.255.255.y:
   974,848 Networks and 16 Hosts: /1110:24

   Class D-4, 224 - 239, Default Subnet Mask 255.255.255.255:
   65,536 Network / MultiCast IP Addresses / AnyCast: /1110:32

5. Total IP Addresses for Class E = 15 x 254^3 = 245,805,960
   Total available IP Addresses for Class E = 15 x 254^3
   Total available IP Host Addresses Equals 15 x 254^N
   (Where N = Number of Octet, and 'Y' equals the Address
    Range '254 - Q'; 240 - 254 is not included in the
    Address Range Represented by the equation
           'Y = 254 - 15'.)

   Class E-1, 240 - 254, Default Subnet Mask 255.y.x.x:
   231,289,860 Networks and 967,740 Hosts: /1111:08

   Class E-2, 240 - 254, Default Subnet Mask 255.255.y.x:
   13,658,850 Networks and 3,810 Hosts: /1111:16

   Class E-3, 240 - 254, Default Subnet Mask 255.255.255.y:
   806,625 Networks and 15 Hosts: /1111:24

   Class E-4, 240 - 254, Default Subnet Mask 255.255.255.255:
   50,625 Network / MultiCast IP Addresses / AnyCast: /1111:32

Chapter II: The IPtX DNS Services: and the Implications of the 'Zone IP', and 'IP Area Code' {IN-ADD.APRA Addressing}

The DNS Services Protocol:

The implementation of the IPtX IP Addressing Protocol Family Specification does very little insofar as Changing the Current DNS Services presently being used in the IPv4 IP Addressing Specification. And while the first IP Addressing System, IPt1, in this Addressing Family, does not require any Changes to the Current DNS Services Specification. There are nevertheless, Changes in the DNS Services Specification, which would result from the implementation of the remaining IP Addressing Systems contained in this Addressing Protocol Family. These changes however, are minor, because they actually do not to change the Foundational Definitions, Operations, nor Functional Purpose of the DNS Service Specification presently being used.

Nevertheless, because there is a Header Size increase, which is Larger than the present Header Size Specification. The only compensation, or Change required by the IPtX DNS Service Specification deals with the 'Bit Size' for some the functions within the 'DNS Protocol', which are required for the Transmission of a 'DNS Query'. In other words, other than the addition of the 'CIDR Network Descriptor' and 3 New 'TYPE RECORD': 1) Specifying the Reverse for the Device Network Name, TYPE 43 ='RNN'= IN-ADDR.APARA NAME = Reverse Network Domain Name, 2) TYPE 44 = 'RNN-PTR' = Reverse Network Domain Name-Domain Name Pointer, and 3) TYPE 44 = 'AA' = IPtX. The only other changes that would be required to implement the IPtX DNS Protocol would to Increase the BIT Size of the; 'Identification' number, 'Opcode', 'Rcode', 'Total Questions', 'Total Answer RRs', 'Total Authority RRs', 'Total Additional RRs', 'Type', 'Length Rdata', 'TTL', 'UDP Header', and the 'TCP' Header. Nevertheless, while noting specifically that the 'Reserve', 'Data Offset', 'Control Bits', and 'ECN' are not affected by the Changes occuring in the 'TCP' Header. However, the Window Size Changes to a 48 Bit HEX Number, which was implemented to Accommodate the Larger 'Ack' and 'Response' Sizes used in the IPtX DNS Specification. In fact, having only 2 Header IP Bit Mapped Address Sizes Defined for the entire range of this Infinitely Large IP Protocol Addressing Family, provides this Protocol Specification with the necessary Stability, which makes it ideally suited for Global IP Addressing and Security. (See Figures 3, 4, and 4-A through 4-H)

The DNS Services:

The only other Change(s) required by the implementation of the IPtX DNS Services Specification deals specifically with:

1. The Mandate requiring Globally Unique User Friendly Names for all Networked Nodes or Devices

2. The Introduction of the IN-ADDR.APRA Naming Convention

3. The Reinstatement of the Definition of TLD-Names: Reverse Network Domain Names; Title: IN-ADDR.APARA NAME = IN-ADDR.RNN

4. Greater Sub-Division of the IPtX DNS 'Data Base' Records

And while the Structure of the IPtX DNS Tree Schematic differs from the current Specification. It's Hierarchical Structure is the True, or actual representation of the Global Community, which does not require any Change in the Functions Defined for the IPtX DNS Servers. However, while the suggestion would be to Label a Zone Server with a User Friendly that provides a Description of it's Ranking and it's Location. Having a Mandatory Naming Convention, other than the requirement for a Globally Unique User Friendly Name that is assigned to the Network IP Address, is not necessary. In other words, regardless of the Naming Convention, it is shown in EX. 1, EX. 2, EX. 3, and EX. 3 Table 1, that using the Design depicting the IPtX DNS Tree results in a further 'Sub-Division' of the Data Base Records, which would reduce the amount of TIME required for a DNS Query and Response.

However, to take full advantage of this Time Savings. Especially when the Query sought, is on the LOCAL Level, and it relates to only the 32 Bit portion of the IP Address within an IP Area Code Address, which is specifically querying about the IP Address of a Local Network Domain. It becomes necessary then, to discuss not only the IN-ADDR.APRA Address, but to introduce an IN-ADDR.APRA Naming Convention that would facilitate the DNS Queries at the Local Level as well. This procedure actually recovers the Definition, or Status the TLD-Name(s) maintained prior to the Global Expansion of the Internet, which was somehow lost when using the Country Code(s) Designations. (See EX. 4 and EX. 4 Table 1; Avoids Problems Discussed in RFC 1034 Section 3.5)

```
                   EX. 2                                      EX. 3

                  World Root {Globalnet Root,          NA Root {North
                     :        Top Level Domains}          |     America
                     ^                                    V     Globalnet
                     |                                   /|\    Zone IP
                    / \                                 / | \   Address}
                 /  / \  \                             /  |  \
              /  /  / \  \  \                         /   |   \
            /  /  /     \  \  \                      /    |    \
           /  /  /       \  \  \                    /     |     \
          /  /  /         \  \  \                  /      |      \
         /  /  /           \  \  \                /       |       \
        /  /  /             \  \  \              /        |        \
       /  /   \             /   \  \            /         |         \
      NA SA   EU           AF   AU OS       United      Canada    Mexico
       \  \    \           /    /  /        States        |           \
        \<-----Zone IP Roots ---->/         /    The Total Number of   \
            for the Continents             / Countries in the Continent \
                                          V <-------------------------->
                                          :    |---------------------|
                                          ^ <->     IP Area Code
                                          |     Addresses = 001 - 050
                                         / \   |---------------------|
                                      /  / \  \
                                   /  /  / \  \  \

            'IP Area Code Address Distribution = IP Area Code Zone'

          United States IP Area Code Address to each State = 001 - 050
     |--------------------------------------------------------------------|
     |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |    |
    001 002 003 004 005 006 007 008 009 010 011...025...037...042...049  050
                         ^      |-----One Copy-------|
                         | <-->   IPt1 IP Addressing
                        / \           Schematic
                     /  / \  \  |-IP Area Code = 006-|
                    /  /   \  \
                   /  /  |  \  \              {IP Area Code Zone}
     <-------->   /  /   |   \  \        <-------------------------->
                 /  /    |    \  \
                /  /     |     \  \
               /  /      |      \  \
              /   \      |      /   \
           Class Class Class Class Class  {Network IP Address Class
             A     B     C     D     E     Distribution = Network Zone}
```

```
                               EX. 3 {continued}

            'IP Area Code Address Distribution = IP Area Code Zone'

          United States IP Area Code Address to each State = 001 - 050
     |--------------------------------------------------------------------|
     |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |    |
    001 002 003 004 005 006 007 008 009 010 011...025...037...042...049  050
                         ^      |-----One Copy-------|
                         | <-->   IPt1 IP Addressing
                        / \          Schematic
                     /  / \  \  |-IP Area Code = 006-|
                    /  /   \  \
                   /  /  |  \  \             {IP Area Code Zone}
                  /  /   |   \  \                     |
     <-------->  /  /    |    \  \        <--------------------------->
                /  /     |     \  \
               /  /      |      \  \
              /   \             /   \
           Class  Class Class Class Class   {Network IP Address Class
             A     B     C     D     E       Distribution = Network Zone}
             \     |     |     |     /
              \<-------> ^ <------->/
                         |
                   |-----------|
                   | /XXXX:XX  |<-->{CIDR Network Descriptor specifying
                   |-----------|     One of the '4' Divisions of the IP
                         ^           Address Classes}
                         |
                         |<--------->{Flat Space Naming Convention, Last
                        / \           Level of the Hierarchy, which list
                     /  / \  \        the Naming Tags assigned to the end
                  /  /  / \  \  \     of the 'Friendly Names'.}
                /  /  /  |  \  \  \
               /  /  /   |   \  \  \
              /  /  /    |    \  \  \           |Where the Schmatic relates
             /  /  /     |     \  \  \          |to an IP Address Specified as:
            /  /  /      |      \  \  \         |001:003:191.191.191.191/110:32
           /  /   \      |      /   \  \        | na:us.ca:hayward-City.gov
       .com .edu .gov  .int  .mil .net .org <-->|   www.hayward-City.gov
```

EX. 3 Table 1

Description of the IPtX DNS Hierarchy
'Chart of the member Nations of the United Nations'

World Root: {Top Level of the IPtX DNS Hierarchy}

NA, SA, EU, AF, AU, OS: {Second Level is the Zone IP Address of the Continents in the IPtX DNS Hierarchy}

IP Area Code Address Distribution Assigned to; Country, State, City, County, or Province:	{Third Level IP Area Code Address Distribution within the Continents in the IPtX DNS Hierarchy}
Network IP Address Classes Assigned to Geographical Locations:	{Forth Level IPt1 Schematic Geographical Network IP Address Distribution in the IPtX DNS Hierarchy}
Record Names or TAGs assigned to the End of an IP Address Specifying the Description or Function of the Organization using the Network IP Address that is Attached to the Backbone of the Globalnet:	{Fifth Level IP Address Record Name or TAGs used in the IPtX DNS Hierarchy; '.com', '.edu', '.gov', '.int', '.mil', '.net', '.org': Which is still the TLD-Name, because it ENDs the 'Friendly Name' associated with an IP Address.}

EX. 4

RFC 1035, Section 3.5 Problem Avoidance

1. The Mandate requiring Globally Unique User Friendly Names for all Networked Nodes or Devices

2. The Reinstatement of the Definition of TLD-Names: Reverse Network Domain Names; Title: IN-ADDR.APARA NAME = IN-ADDR.RNN

   {Eliminating the Need for Internet Domain DNS Query when Query in within the same Zone IP and IP Area Code Address Location}

Example: The IN-ADDR.ARPA domain will contain information about the ISI gateway between net 10 and 26, an MIT gateway from net 10 to MIT's (the word "net" tells the User that the Network Domain in Question, is within His 'Zone IP' and 'IP Area Code' Address; And in this case they are '001', and '002') net 18, and hosts A.ISI.EDU and MULTICS.MIT.EDU. Assuming that ISI gateway has addresses 001:002:10.2.0.22 and 001:002:26.0.0.103, and a name MILNET-GW.ISI.EDU, and the MIT gateway has addresses 001:002:10.0.0.77 and 001:002:18.10.0.4 and a name GW.LCS.MIT.EDU, the domain database would contain:

IN-ADDR.APRA	IN-ADDR.RNN
10:002:001:IN-ADDR.ARPA	RNN-PTR EDU.ISI.GW-MILNET *
10:002:001:IN-ADDR.ARPA	RNN-PTR EDU.MIT.LCS.GW *
18:002:001:IN-ADDR.ARPA	RNN-PTR EDU.MIT.LCS.GW1 *
26:002:001:IN-ADDR.ARPA	RNN-PTR EDU.ISI.GW-MILNET1 *
22.0.2.10:002:001:IN-ADDR.ARPA	RNN-PTR EDU.ISI.GW-MILNET2 *
103.0.0.26:002:001:IN-ADDR.ARPA	RNN-PTR EDU.ISI.GW-MILNET3 *
77.0.0.10:002:001:IN-ADDR.ARPA	RNN-PTR EDU.MIT.LCS.GW2 *
4.0.10.18:002:001:IN-ADDR.ARPA	RNN-PTR EDU.MIT.LCS.GW3 *
103.0.3.26:002:001:IN-ADDR.ARPA	RNN-PTR EDU.ISI.A
6.0.0.10:002:001:IN-ADDR.ARPA.	RNN-PTR EDU.MIT.MULTICS

Thus a program which wanted to locate gateways on net 10 would originate a query of the form QTYPE=RNN-PTR, QNAME = 10.IN-ADDR.ARPA. While it would only receive 2 RRs in response. Nonetheless, these requirements still eliminates the precautions specified in RFC1035*.

```
                            EX. 4 Table 1

                 Globalnet Network Domain Naming Reference
               <--------------------------------------------->

     "IPtX Default 'Network Domain Name Address' Design Specification"


     Zone IP  IP Area Code       IP Address         TLD        /XXXX:XX
  -----------|-------------|------------------|----------------|-----------

    Continent-->Country--> User Friendly Name-->Record (Tag) Name
                  |
                  V
                State (Province)--> User Friendly Name-->Record (Tag) Name
                  |
                  V
                City (Town, County)--> User Friendly Name-->Record (Tag) Name


    Network Domain Name Example:        World Wide Web Domain Name Example:
 |----------------------------------|  |-------------------------------------|

    1.  na:us.ca:hayward-City.gov            1.  www.hayward-City.gov

    2.  na:us.ca.sj:cisco.com                2.  www.cisco.com


                             Table 3

                   Reality of the Structure of the
               Addressing Schematic Design for the IPt2
         Protocol Specification Using The Modern Binary System
                   Which yields a Combined Total
                    of 2.67 x 10^14 IP Addresses


           '254'        '254'          One Copy Of          'CIDR'
           Total    IP Area Code   'IPt1' Addressing        Network
          Zone IP    Addresses         Schematic          Descriptor
         Addresses      per        per 'IP Area Code           |
          |    |     'Zone IP'    Address' = 253 x 254^3       |
          v    v      Address          IP Addresses            |
                                                               |
       | Zone IP | IP Area Code |      IP Address       |      V
     ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
      ... 255    :    255       :  255.000.000.000       /XXXX:XX
           |           |                 |
           V           V                 V
     <-Global-Net |  InterNet    |    IntraNet
```

Table 4

"Reality of the Structure of the Schematic for the 'IPt2' IP Specification Using the Modern Binary System."(Where the Value for the variable 'Y' is given by the Laws of the Octet, and Total Number of Available IP Addresses Equals 2.67 x 10^14.)

1. Total IP Addresses for 'Class A' having '254' 'Zone IP' Addresses

= 254 x 254 x 126 x 254^3
= 254 x 254 x 2,064,770,064
= 1.332107 x 10^14

Total of 254 IP 'IP Area Code' Addresses per 'Zone IP' Address

= 254 x 126 x 254^3
= 254 x 2,064,770,064
= 5.244516 x 10^11

Distribution per 'Zone IP' Address yielding the 'IP Area Code' Addresses

Class A-1, 1 - 126, Default Subnet Mask 255.y.x.x:
2.642906 x 10^11 Networks and 8,129,016 Hosts: /00:08

Class A-2, 1 - 126, Default Subnet Mask 255.255.y.x:
1.311048 x 10^11 Networks and 32,004 Hosts: /00:16

Class A-3, 1 - 126, Default Subnet Mask 255.255.255.y:
6.503622 x 10^10 Networks and 126 Hosts: /00:24

Class A-4, 1 - 126, Default Subnet Mask 255.255.255.255:
6.4020034 x 10^10 Network / MultiCast IP Addresses / AnyCast: /00:32

2. Total IP Addresses for 'Class B' having '254' 'Zone IP' Addresses

```
                                  = 254 x 254 x 64 x 254^3
                                  = 254 x 254 x 1,048,772,096
                                  = 6.766258 x 10^13
```

Total of 254 IP 'IP Area Code' Addresses per 'Zone IP' Address

```
                                  = 254 x 64 x 254^3
                                  = 254 x 1,048,772,096
                                  = 2.663881 x 10^11
```

Distribution per 'Zone IP' Address yielding the 'IP Area Code' Addresses

Class B-1, 128 - 191, Default Subnet Mask 255.y.x.x:
1.992667 x 10^11 Networks and 4,129,024 Hosts: /10:08

Class B-2, 128 - 191, Default Subnet Mask 255.255.y.x:
5.0208932 x 10^10 Networks and 16,256 Hosts: /10:16

Class B-3, 128 - 191, Default Subnet Mask 255.255.255.y:
1.2651069 x 10^10 Networks and 64 Hosts: /10:24

Class B-4, 128 - 191, Default Subnet Mask 255.255.255.255:
4.2614129 x 10^9 Network / MultiCast IP Addresses / AnyCast: /10:32

3. Total IP Addresses for 'Class C' having '254' 'Zone IP' Addresses

= 254 x 254 x 32 x 254^3
= 254 x 254 x 524,386,048
= 3.383129 x 10^13

Total of 254 IP 'IP Area Code' Addresses per 'Zone IP' Address

= 254 x 32 x 256^3
= 254 x 524,386,048
= 1.331941 x 10^11

Distribution per 'Zone IP' Address yielding the 'IP Area Code' Addresses

Class C-1, 192 - 223, Default Subnet Mask 255.y.x.x:
1.164137 x 10^11 Networks and 2,064,512 Hosts: /110:08

Class C-2, 192 - 223, Default Subnet Mask 255.255.y.x:
1.466629 x 10^10 Networks and 8,128 Hosts: /110:16

Class C-3, 192 - 223, Default Subnet Mask 255.255.255.y:
1.8477220 x 10^9 Networks and 32 Hosts: /110:24

Class C-4, 192 - 223, Default Subnet Mask 255.255.255.255:
2.663383 x 10^8 Network / MultiCast IP Addresses / AnyCast: /110:32

4. Total IP Addresses for 'Class D' having '254' 'Zone IP' Addresses

```
                                  = 254 x 254 x 16 x 254^3
                                  = 254 x 254 x 262,193,024
                                  = 1.691558 x 10^13
```

Total of 254 IP 'IP Area Code' Addresses per 'Zone IP' Address

```
                                  = 254 x 16 x 254^3
                                  = 254 x 262,193,024
                                  = 6.659677 x 10^10
```

Distribution per 'Zone IP' Address yielding the 'IP Area Code' Addresses

Class D-1, 224 - 239, Default Subnet Mask 255.y.x.x:
6.240194 x 10^10 Networks and 1,032,256 Hosts: /1110:08

Class D-2, 224 - 239, Default Subnet Mask 255.255.y.x:
3.930831 x 10^9 Networks and 4,064 Hosts: /1110:16

Class D-3, 224 - 239, Default Subnet Mask 255.255.255.y:
2.476114 x 10^8 Networks and 16 Hosts: /1110:24

Class D-4, 224 - 239, Default Subnet Mask 255.255.255.255:
1.6646144 x 10^7 Network / MultiCast IP Addresses / AnyCast: /1110:32

5. Total IP Addresses for 'Class E' having '254' 'Zone IP' Addresses

= 254 x 254 x 15 x 254^3
= 254 x 254 x 245,805,960
= 1.585842 x 10^13

Total of 254 IP 'IP Area Code' Addresses per 'Zone IP' Address

= 254 x 15 x 254^3
= 254 x 245,805,960
= 6.243471 x 10^10

Distribution per 'Zone IP' Address yielding the 'IP Area Code' Addresses

Class E-1, 240 - 254, Default Subnet Mask 255.y.x.x:
5.874762 x 10^10 Networks and 967,740 Hosts: /1111:08

Class E-2, 240 - 254, Default Subnet Mask 255.255.y.x:
3.4693479 x 10^9 Networks and 3,810 Hosts: /1111:16

Class E-3, 240 - 254, Default Subnet Mask 255.255.255.y:
2.0488275 x 10^8 Networks and 15 Hosts: /1111:24

Class E-4, 240 - 254, Default Subnet Mask 255.255.255.255:
1.285875 x 10^7 Network / MultiCast IP Addresses / AnyCast: /1111:32

Table 5

INTERNET PROTOCOL t2 (64 Bit) ADDRESS SPACE

Reserved BITS		IPt2 IP Address Prefix: CIDR Network Descriptor	Zone IP	IP Area Code	IPt1 Address /Schematic\ IP Address Assignment	Distribution /Purpose\	Date
8	8	None	000:	000:	000.000.000.000	None	4/2002
8	8	All	001:	All:	XXX.XXX.XXX.XXX	NA	4/2002
8	8	All	002:	All:	XXX.XXX.XXX.XXX	SA	4/2002
8	8	All	003:	All:	XXX.XXX.XXX.XXX	EU	4/2002
8	8	All	004:	All:	XXX.XXX.XXX.XXX	OS	4/2002
8	8	All	005:	All:	XXX.XXX.XXX.XXX	AU	4/2002
8	8	All	006:	All:	XXX.XXX.XXX.XXX	AF	4/2002
8	8	All	007-254:	All:	XXX.XXX.XXX.XXX	IANA/RESERVED	4/2002
8	8	All	001-254:	000-254:	000.000.000.000	IANA/EMERGENCY	4/2002
8	8	/00:08	255:	255:	127.000.000.000	IANA/LoopBack	4/2002

Figure 3

IPt2 64 Bit Mapped Address Space

```
 Prefix Address <---> (Or Trunk Identifier)                          CIDR
        /   |          |      \              32 Bit IPt1      Network
| 8 Bits  | 8 Bits  |  8 Bits | 8 Bits      | Address Space   |Descriptor
+---------+---------+-----------------------+--------------------------+
|Reserved:|Reserved:| Zone IP:|IP Area Code:| XXX.XXX.XXX.XXX | /XXXX:XX |
+---------+---------+-----------------------+--------------------------+
```

Figure 4

IP Header for IPt2

```
0                   2                   4                   6
0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2
|IPtX|  IHL  |   TOS & NEXT HEADER    |  TL & DIRECTION BIT   |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
| ID & SECURITY BIT |FLA| FRAG OFFSET |:IP PBX Send |/XXXX:XX |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
| TTL-HOP LIMIT | PROTOCOL |:IP PBX Recv | CHK SUM | ConfCall |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
| S1 RESERVED: | S2 RESERVED:| S  ZONE IP:   | S IP AREA CODE:|
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                          SOURCE ADDRESS                     |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
| D1 RESERVED: | D2 RESERVED:| D  ZONE IP:   | D IP AREA CODE:|
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                   DESTINATION   ADDRESS                     |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             OPTIONS                         |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                             DATA                            |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|-------------------------------------------------------------|
```

Figure 4-A

DNS Header for IPtX

```
0                   2                   4                   6
0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2
| Identification-XXXX:XX |QR|Opcode|AA|TC|RD|RA|Z|AD|CD|Rcode |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|     Total Questions         |        Total Answer RRs        |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|    Total Authority RRs      |     Total Additional RRs       |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                        Questions                             |
|                            :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                        Answer RRs                            |
|                            :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                        Authority RRs                         |
|                            :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                       Additional RRs                         |
|                            :::                               |
|--------------------------------------------------------------|
```

Figure 4-B

DNS Query for IPtX

```
0                   2                   4                   6
0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2
|                         Query Name                           |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                            :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                            :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|              Type            |           Class               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                            :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                            :::                               |
|--------------------------------------------------------------|
```

Figure 4-C

DNS Resource Record for IPtX

```
0                   2                   4                   6
0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2
|                          Name                              |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                           :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                           :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|             Type             |           Class              |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                           TTL  :::: to 64Bits               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|      Length  Rdata           |           Rdata :::          |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                           :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                           :::                               |
|-------------------------------------------------------------|
```

Figure 4-D

CHANGES: IPtX DNS Services 64Bit Header

```
 DNS Header for IPt2     |  DNS Query for IPt2    DNS Resource Record for IPt2
------------------------|----------------------|-----------------------------|
                        |                      |
Identification = 40Bits |    Type = 48Bits     |     Type = 48Bits
                        |                      |
Opcode = 4Bits          |    Class = 16Bits    |     Class = 16Bits
                        |                      |
Rcode = 4Bits           |Length Rdata = 32Bits |     TTL = Variable to 64Bits
                        |----------------------------------------------------|
TQuestions = 32Bits     |          3 New "TYPE" Categories
                        |
TAnswers RR = 32Bits    | 1. TYPE 43 = 'RNN' = "Reverse Network Domain Name"
                        |     Title: IN-ADDR.APARA NAME = IN-ADDR.RNN
TAuthority RR = 32Bits  |
                        | 2. TYPE 44 = 'RNN-PTR' = "Reverse Network Domain
TAdditional RR = 32Bits |                           Name-Domain Name Pointer"
                        |
CIDRNetDes = XXXX:XX    | 3. TYPE 45 = 'AA' = "IPtX (IP Address)"
  /XXXX:XX = 8Bits      |
------------------------|----------------------|-----------------------------|
```

Figure 4-E

TCP Header for IPtX

```
0                   2                   4                   6
0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2
|   Source Port = 32 BITS    |  Destination Port = 32 BITS    |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|             Sequence Number = 64 BITS                       |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                  Acknowledgment Number = 64 BITS            |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|DataOffset 4Bit|Resrvd|ECN|Control Bits |Window 48Bit HEX No.|
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|       Checksum = 32 BITS   |  Urgent Pointer = 32 BITS      |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                   Options and padding                       |
|                           :::                               |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                          Data                               |
|                           :::                               |
|-------------------------------------------------------------|
```

Figure 4-F

TCP Pseudo Header for IPt1

```
0                   1                   2                   3
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
|                    Source IPt1 address                      |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                 Destination IPt1 address                    |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|   0     |  Protocol = 8 Bits |    Total length = 16 Bits    |
|-------------------------------------------------------------|
```

Figure 4-G

UDP header for IPtX

```
0                   2                   4                   6
0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2 4 6 8 0 2
|   Source Port = 32 BITS    |  Destination Port = 32 BITS    |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|        Length = 32 BITS    |   Checksum = 32 BITS           |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                           Data                               |
|                           :::                                |
|                           :::                                |
|-------------------------------------------------------------|
```

Figure 4-H

UDP Pseudo Header for IPt1

```
0                   1                   2                   3
0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
|                     Source IPt1 address                       |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|                  Destination IPt1 address                     |
|+ + + + + + + + + + + + + + + + + + + + + + + + + + + + + + +|
|   0     |  Protocol = 8 Bits |    Total length = 16 Bits     |
|-------------------------------------------------------------|
```

Chapter V: Security Considerations [7]

This document, whose primary objective was the Development of the IPtX DNS Specification does not Challenge the Security Procedures specified for the Current DNS Specification. Hence, accepts the current Security Recommendations Specified for the IPv4 DNS Specification. Nevertheless, it is behooving to note, the Organization of a Hierarchical Structure for the Globalnet is suggestive of the possibility for a 'Static' Global network, which would allow a Permanent Geographical Design (Layout) for Networks, and the Assignment of IP Addresses. This facility would, inherently provide the additional Security Features found in most Telephony Systems. Hence, the creation of a far greater Security Platform. However, the implementation of this security feature would not provide the same degree of security for Networked Appliances that are accessible from another network Domain.

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