Proposed Recommendation for: Hierarchical Addressing Protocol

Authors: Dave Wolf, W05H
             Greg Jones, WD5IVD
             Roy Engehausen, AA4RE
             Hank Oredson, WORLI

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Send Comments and Supplemental Table Input to:
             Dave Wolf, W05H, TAPR BBS SIG Chair
             Packet: wo5h@wo5h.#dfw.tx.usa.noam
             Internet: dwolf@tcet.unt.edu
             Fax: (8 17) 295-6232

Introduction

   The TAPR BBS Special Interest Group recommends the adoption of the x.3.4 hierarchical address protocol.

   After discussion of previous articles on hierarchical addressing standards (1,2) and taking into account international issues of regional/state name sizes, the TAPR BBS Special Interest Group recommends the adoption of the x.3.4 standard on an international basis. x is defined as 2, 3, or 4 letter region names as defined by the country

   Examples of x.3.4:
     @WA6GVD.CA.USA.NOAM
     @EA2CMO.EAZ.ESP.EURO
     aF5JGK.FAQI.FRA.EURO

   Regional identifiers may be duplicated in different countries (i.e. AK, Alaska, USA, could be used in another country as a regional identifier); however, Country and Continental identifiers SHOULD NOT be used as regional names.

   It is important to note that there is a distinct and significant difference between HIERARCHICAL ADDRESSES and FLOOD DESIGNATORS. Hierarchical address elements are common to all messages (bulletins, P and T types) and are the foundation of the digital forwarding system. Flood designators are used for routing and filtering bulletins. Geographical flood designators are likely based upon hierarchical address elements. It is therefore important that any attempt to establish standards concentrate first on hierarchical address elements. Standards for flood designators can follow.

166

It is the purpose of this document to establish a basic framework upon which to base a logical hierachical addressing structure. Attached Supplemental Tables will be changed as necessary to reflect current configurations within the international BBS network.

Hierarchical Routing Syntax Summary

This summary uses a modified Backus-Naur form to summarize the syntax for hierarchical addressing.
[] = optional

  ahierarchial address
    bbs. [#octothorpe.][region.]country.continent

  bbs
    valid callsign as defined by local communications authority

  #octothorpe.
    #area. [#octothorpe.]

      #area
        local area identifier as defined by the sysops of the local region

        See Supplemental Table 4 for list of current area identifiers

  region
    2,3, or 4 character region identifier (for state, province, department, prefecture, etc.)
    as defined by sysops within each country.

        See Supplemental Table 3 for list of region identifiers

  country
    3 character country identifier as defined by ANSI X. 12 and EDIFACT.
    Published in IS0 3 166-198 1 (E/F).

        See Table 2 for country identifiers

  continent
    4 character continental identifier.

        See Table 1 for continental identifiers.

Examples:
  F6CNBMETX.TX.USA.NOAM

```
KE!7WE.#WWA.WA.USA.NOAM
OHGRBV.#VAA.FIN.EURO
SK2AT.AC.SWE.EURO
OH6RBG.FIN.EURO
KE7KD.#NONEV.NV.USA.NOAM
WX3K.#NOCAL.CA.USA.NOAM
```

References:

1. Jenkins, Lew (N6VV), Dave Toth (VE3GYQ), and Hank Oredson (WORLI). International Routing Designators. Proceedings of the ARRL 7th Computer Networking Conference. Columbia Maryland. October 1, 1988. pp. 91-93.

2. Clark, Tom (W3IWI). Some comments on the 'Hierarchical Continent Address Designator. Proceedings of the ARRL 9th Computer Networking Conference. London, Ontario Canada. September 22, 1990. pp. 278-279.

TABLE 1: Continent Identifiers

```
EURO -- Europe
MEDR -- Mediterranean
INDI -- Indian Ocean including the Indian subcontinent
MDLE -- Middle East
SEAS -- South-East Asia
ASIA -- The Orient

NOAM -- North America (Canada, USA, Mexico)
CEAM -- Central America
CARB -- Caribbean
SOAM -- South America

AUNZ -- Australia/New ZeAC -- Eastern Pacific
NPAC -- Northern Pacific
SPAC -- Southern Pacific
WPAC -- Western Pacific

NAFR -- Northern Africa
CAFR -- Central Africa
SAFR -- Southern Africa

ANTR -- Antarctica
```

TABLE 2: Country Identifiers

ARG -- Argentina	ISR -- Israel	URY -- Uruguay
AUS -- Australia	ITA -- Italy	SUN -- USSR ??? (Docu-
AUT -- Austria	JPN -- Japan	ment needs latest defintions)
BEL -- Belgium	PRK -- Korea, North	VEN -- Venezuela
BMU -- Bermuda	KOR -- Korea, South	YUG -- Yugoslavia
BOL -- Bolivia	LBN -- Lebanon	
BRA -- Brazil	LIE -- Liechtenstein	END of formal document.
BRN -- Brunei	LUX -- Luxembourg	
BGR -- Bulgaria	MYS -- Malaysia	SUPPLEMENTAL TABLES
CAN -- Canada	MEX -- Mexico	follow, which may be
CHL -- Chile	MC0 -- Monaco	modified on a continuing
CHN -- China	MAR -- Morocco	basis to reflect the changing
COL -- Colombia	NLD -- Netherlands	nature of the amateur digital
CRI -- Costa Rica	NZL -- New Zealand	communications network. It
CUB -- Cuba	NIC -- Nicaragua	is the express desire of the
DNK -- Denmark	NOR -- Norway	authors that these tables be
DOM -- Dominican	PAK -- Pakistan	'fleshed out' in time as
Republic	PAN -- Panama	acceptance of the standard
ECU -- Ecuador	PRY -- Paraguay	proposed in this document
EGY -- Egypt	PER -- Peru	grows. The supplemental
SLV -- El Salvador	PHL -- Phillipines	tables may be maintained by
FIN -- Finland	POL -- Poland	TAPR and desseminated, as
FRA -- France	PRT -- Portugal	necessary.
PYF -- French Polynesia	ROM -- Romania	
DEU -- Germany	SAU -- Saudi Arabia	------
GRC -- Greece	SGP -- Singapore	
GRL -- Greenland	ZAF -- South Africa	Supplemental Tables for
GTM -- Guatemala	ESP -- Spain	Hierarchical Addressing
HTI -- Haiti	SWE -- Sweden	Protocol Document $_e$ These
HND -- Honduras	CHE -- Switzerland	tables are to be maintained by
HKG -- Hong Kong	SYR -- Syria	TAPR, Tucson Amateur
HUN -- Hungary	TWN -- Taiwan	Packet Radio Corporation,
ISL -- Iceland	THA -- Thailand	based on continuing input
IND -- India	TUR -- Turkey	from the amateur community.
IDN -- Indonesia	GBR -- United Kingdom	
IRL -- Ireland	USA -- United States	

TABLE 3 (SUPPLEMENTAL): Region Identifiers organized by Country Codes.

ARG -- Argentina
  BA ||| 77
  CF   ¿7
AUS --Australia
  3   7
ACT -- Austria
  77
BEL -- Belgium
  HT II 77
  LG   77
  ()<--: +?
  WVL -- ??
BMU -- Bermuda
  77
B&L -- Bolivia
  77
BRA -- Brazil
  RS -0 77
  SP   i i
BRN 1: Brunei
  77
BGR -- Bulgaria
  77
CAN -- Canada

  Al3 -- Alberta
  BC -- British Columbia
  LB -- Labrador
  MB -- Manitoba
  NB -- New Brunswick
  NF -- Newfoundland
  NS -- Nova Scotia
  NT -- Northwest
Territories
  ON -- Ontario
  PE -- Prince Edward
Island
  PQ -- Quebec
  SK -- Saskatchewan
  UT -- Yukon Territory

CHL -- Chile
  77

CHN -- China
  77
COL -- Colombia
  77
CRI -- Costa Rica
  77
CUB -- Cuba
  77
DNK -- Denmark
  77
DOM -- Dominican
Republic
  77
ECU -- Ecuador
  77
EGY -- Egypt
  77
SLV -- El Salvador
  77
FIN -- Finland
  77
FRA -- France
  FCEN -- ??
  FRPA -- ?i
  FCAL -- ??
  FPDL -- ??
  FMLR -- ??
  FNOR -- ??
  FCOR -- ??
  FPOC -- ??
  FAQI -- ??
PYF -- French Polynesia
  77
DEU -- Germany
  B Y   77
GRC -:-Greece
  77
GR!L -- Greenland
  77
GTM -- Guatemala
  none
HTI -- Haiti
  77

HND -- Honduras
  77
I-KG -- Hong Kong
  77
HUN -- Hungary
  77
ISL -- Iceland
  77
IND -- India
  77
IDN -- Indonesia
  77
IRL -- Ireland
  77
ISR -- Israel
  77
ITA -- Italy
  IEMR -- ?7
  IFVG -- ??
  ILOM -- ??
  IPIE -- ?7
  IPUG -- i?
  ISAR -- ?7
  ISIC -- ??'
  ITAA -- ?7
  IVEN -- ?'i
  MO -- ??
JPN -- Japan
  77
PRK -- Korea, North
  77
K6R -- Korea, South
  77
LBN -- Lebanon
  77
LIE -- Liechtenstein
  77
LUX -- Luxembourg
  77
MYS -- Malaysia
  77
MEX -- Mexico
  77

170

MC0 -- Monaco
?7
MAR -- Morocco
?7
NLD -- Netherlands
?7
NZL -- New Zealand
?7
NIC -- Nicaragua
?7
NOR -- Norway
?7
PAK -- Pakistan
?7
PAN -- Panama
?7
PRY -- Paraguay
77
PER -- Peru
77
PHL -- Phillipines
?7
POL -- Poland
??
PRT -- Portugal
CTPT -- ?7
ROM -- Romania
?7
SAU -- Saudi Arabia
?7
SGP -- Singapore
??
ZAF -- South Africa
?7
ESP -- Spain

EAA -- Alicante
EAAB -- Albacete
EAAL -- Almeria
EAAV -- Avila
EAO -- Asturias
EABI -- Vizcaya
EAB -- Barcelona
EABA -- Badajoz
EABU -- Burgos

EAC -- La Coruna
EACA -- Cadiz
EACC -- Caceres
EACE -- Ceuta
EACO -- Cordoba
EAH -- Huesca
EASE -- Sevilla
EAHU -- Heulva
EAZ -- Zaragoza
EACR -- Ciudad Real
EACS -- Castelion
EACU -- Cuenca
EAGC -- Gran Canaria
EAGI -- Girona
EAGR -- Granada
EAGU -- Guadalajara
EAHU -- Huelva
EAJ -- Jaen
EAL -- Lleida
EALE -- Leon
EALO -- La Rioja
EALU -- Lugo
EAM -- Madrid
EAMA -- Malaga
EAML -- Melilla
EAMU -- Murcia
EANA -- Navarra
(Pamplona)
EAO -- Oviedo
EAOR -- Orense
EAP -- Palencia
EAPM -- Baleares
(Palma de Mallorca j
EAPO -- Pontevedra
EAS -- Cantabria
EASA -- Salamanca
EASG -- Segovia
EASO -- Soria
EASS -- Guipuzcoa
EAT -- Tarragona
EATE -- Turuel
EAT0 -- Toledo
EATF -- Santa Cruz de
Tenerife
EAV -- Valencia

EAVA -- Valladolid
EAVI -- Alava
EAZA -- Zamora

SWE -- Sweden
AC $^{-0}$?7
CH; -- Switzerland
77
SYR W$_0$- Svria
?7
TWN -- Taiwan
3?
THA -- Thailand
73
TUR -- Turkey
?7
GHR ---- United Kingdojnl
(need a list of routing
numbers, by county)
#1 -- -?3
#2 $^{-0}$ 3?
... $^{-80}$ nn?
USA -- United States
AK -- Alaska
AL -- Alabama
AR -- Arkansas
AZ -- Arizona
CA -- California
CO -- Colorado
CT -- Connecticut
DE -- Delaware
FL -- Florida
GA -- Georgia
HI -- Hawaii
IA -- Iowa
ID -- Idaho
IL $^{-0}$ Illinois
IN -- Indiana
KS -- Kansas
KY -- Kentucky
LA -- Louisiana
1MA -- Massachusetts
MD -- Maryland
ME -- Maine

MI -- Michigan
MI -- Mississippi
MN -- Minnesota
MO -- Missouri
MT -- Montana
NC -- North Carolina
ND -- North Dakota
NE -- Nebraska
NH -- New Hampshire
NJ -- New Jersey
NM -- New Mexico
NV -- Nevada
NY -- New York
OH -- Ohio
OK -- Oklahoma
OR -- Oregon

PA -- Pennsylvania
RI -- Rhode Island
SC -- South Carolina
SD -- South Dakota
TN -- Tennessee
TX -- Texas
UT -- Utah
VA -- Virginia
VT -- Vermont
WA -- Washington
WI -- Wisconsin
WV -- West Virginia
WY -- Wyoming
DC -- District of Columbia
PR -- Puerto Rico

URY -- Uruguay
MVD -- ??
SUN -- USSR ???
(Document needs latest defmtions)
??
VEN -- Venezuela

YUG -- Yugoslavia
SRI3 -- ??

Table 4: (Local) Area Defintions

All readers are suggested to submit their local area defintions for inclusion in the table. Be sure to include the region and country.
Example: #DFW.TX.USA -- Dallas/Ft Worth Texas Area would be an entry in this table.

USA -- United States

AK -- Alaska
#ADAK#AK
#SAK#AK

AL -- Alabama
#BHM#AL
#CENAL#AL
#FHl?#AL
#HSV#AL
#MOBAL#AL
#BHM#AL
#CENAL#AL

#FHP#AL
#HSV#AL
#MOBAL#AL

AZ -- Arizona

*AZ
We do not implement .# do to our network system allowing live connects from one end of the state to another. We agreed this year to not to make any changes because things are still working so well.

FL -- Florida
#MOB#FL
#MLBFL#FL
#NEFL#FL
#NFL#FL - North Florida Section
#OCFFL#FL

#OKLAN#FL - Okaloosa County LAN
#ORLFL#FL - Orlando, FL
#PASFL#FL
#PFNFL#FL
#PMPFL#FL
#PNSFL#FL - Pensacola, FL
#PSJ#FL
#RCCFL#FL
#SRQ#FL
#SRQFL#FL
#STC#FL
#STU#FL
#SUNFL#FL
#SWFL#FL
#TAV#FL
#TLH#FL - Talahassee, FL
#TPA#FL - Tampa, FL
#VENFL#FL
#VRBFL#FL - Vero Beach, FL

#WPBFL#FL - West Palm Beach, FL

GA -- Georgia

#CVL#GA
#DLT#GA
#ETADS#GA
#MAR#GA
#NGA#GA
#NOGA#GA
#NTSGA#GA
#SAV#GA
#SEGA#GA
#SSI#GA
#STK#GA
#SWGA#GA
#VLD#GA
#WAL#GA
#WCGL#GA

IA -- Iowa

#CIA#IA
#ECIA#IA
#KAOSTB#IA
#NWIA#IA
#SEIA#IA
#SWIA#IA
#WCIA#IA

IL -- Illinois

#NEIL.IL.USA NORTHEASTERN IL
#NWIL.IL.USA NORTHWESTERN IL
#NCIL.IL.USA NORTHCENTRAL IL
#SIL.IL.USA SOUTHEXN IL
#CIL.IL.USA CENTRAL IL
#ECIL.IL.USA EASTCENTRAL IL

#WCIL.IS.USA WESTCENTRAL IL

IN -- Indiana

#CEIN#IN
#CrN#rN
#NOIN#IN
#NCIN#IN
#NErN#rN
#NrIwIN
#NOIN#IN
#NwrN#rN
#SrN#rN

KS -- Kansas

#NWKS.KS.USA -- Northwest Kansas (2 1 counties)
#NCKS.KS.USA -- North Central Kansas (15 counties)
#NEKS.KS.USA -- North East Kansas (21 counties)
#SEKS.KS.USA -- South East Kansas (15 counties)
#SCKS.KS.USA -- South Central Kansas (15 counties)
#SWKS.KS.USA -- Southwest Kansas (18 counties)

KY -- Kentucky

#MIDKY#KY
#NCKY#KY
#NEKY#KY
#NWKY#KT

NC -- North Carolina

#AVL#NC
#BUY#NC
#CLT 1 #NC
#DUR#NC
#EASTNC#NC
#GAS#NC
#GSO#NC
#HKY#NC .
#&KY l#NC
#ILM#NC
#INT#NC
#LBT#NC
#MEB#NC
#RTP#NC
#RTP#NC

ND -- North Dakota

#DL#ND
#GFK#ND
#JAM#ND
#MOT#ND
#PAR#ND
#RL#ND
#SEND#ND

NE -- Nebraska

#ASHBY#NE
#ENE#NE
#NENE#NE
#SCNE#NE
#SENE#NE
iWNE#NE

NH -- New Hampshire

#NNH#NH
#SCNH#NH

NJ -- New Jersey

#NNJ#NJ
#SNJ#NJ

NV -- Nevada
#NENEV#NV Covers Elko and Ely Nevada
#NONEV#NV Covers Reno, Carson, Fallon, Lake Tahoe Nevada
#SONEV#NV Covers Las Vegas BBSs

NY -- New York

#CNY#NY
#ENY#NY
#NENY#NY
#NLI#NY
#NNY#NY
#NYC#NY
#WNY#NY

OH --Ohio

#CIN#OH
#CMH#OH
#DAY#OH
#EOH#OH
#NCOH#OH
#NEOH#OH
#NOH#OH
#NWOH#OH
#SEOH#OH
#SWOH#OH
#TOL#OH

OK -- Oklahoma

#NCOK#OK
#NEOK#OK
#OKC#OK
#SCOK#OK

PA -- Pennsylvania

#EPA.PA.USA -- East PA
#WPA.PA.USA -- Western PA
#cpa
#nepa
#sepa
#ncpa
#scpa
#nwpa
#swpa

TX -- Texas

#AUS
#CENTX
#DFW
#ETX
#NTX
#SAT
#STX
#SETX
#WTX

WA -- Washington

#SWA#WA

#SEA#WA
#SEWA#WA
#SPOKN#WA
#VANC#WA
#WWA#WA

WI -- Wisconsin

#CFL#WI
#CWI#WI
#DUR#WI
#ECWI#WI
#JNSVL#WI
#MKE#wI
#NOWI#WI
#NwI#WI
#SCWI#WI
#SEWI#WI
#TMH#WI
#WwI#WI

WV -- West Virginia

#NEWV#WV
#NwV#WV

WY -- Wyoming

#NwwY#wY
#RAwL#WY
#SEWY#WY
#SOWY#WY

---- END -----