

Title: ommet o D-10747 (DRP)

Source:

o er the ollow g ommet o D-10747 (DRP). They re l e ollow : = m or te h-
l, E = m or e tor l, m=m or te h l, e = m or e tor l.

1. *re g Te ()*

The metho or re g te e re lue 8.17.1 o tetwth the ue o the
UT-EXT_DS ttr ute: e the metho o 8.17.1 oe ot epe upo the UT-EXT_DS
ttr ute, te et lly re er tht ttr ute uele .

urthermore, the ee to re te re two eprte te :

- or g to lue 8.1.1 (ter l Up te), S mut me ele to mog route
reeve retly rom Slo te other route gom , o th t t the vert e the
hoe route to ll other Slo te t ow route gom
- or g to lue 8.17 (De o Pro e), S mut me ele to rom mog ll route
t -R -, reg rle o the lo to o the S rom wh h they re le re .

The text o 8.17.1 houl e exp e to re oth o the e tuto eprte ly, o er
the text o te ppe x , "Sugge te Repl emet Text or lue 8.17.1" o pge : t om-
prehe the ue o UT-EXT_DS t lo expl tly re e the two tuto wh h te
ee to e ro e .

2. *put to the Degree o Pre ere e u to (m)*

Erly u o S o the E route g proto l ote tht the e l ty o g ve route
houl ot epe o properte o other route , ut o ly o t ow properte . Th prem e
lre y omme te 'DRP' lue 8.17, where t tte tht "The ele to pro e orm lze
ye g u to tht tte the ttr ute o g ve pth rgume t retur o -
eg tve te ger e ot g the egree o pre ere e or the p th".

t ugge te tht th toul e m e le rer y g the ollow g ttemet to ter the
e o e te e o the e o prgrph: "The egree o pre ere e u to or g ve pth h ll
ot ue t put yo the ollow g: the ex te e o other route , the o-ex te e o other
route , or the p th ttr ute o other route".

The , the ext e te e houl e h ge ollow : "P th ele to the o t o v ul
ppl to o the egree o pre ere e u to to e h e le pth, ollowe y the hoe o the
o e w th the h ghet egree o pre ere e."

3. *put to the Degree o Pre ere e u to (m)*

Erly u o S o the E route g proto l ote tht the e l ty o g ve route
houl ot epe o properte o other route , ut o ly o t ow properte . Th prem e
lre y omme te 'DRP' lue 8.17, where t tte tht "The ele to pro e orm lze
ye g u to tht tte the ttr ute o g ve pth rgume t retur o -
eg tve te ger e ot g the egree o pre ere e or the p th".

t ugge te th t th t oul e m e le r e r y g the ollow g t t e m e t t o t e r the e o e t e e o the e o p r g r h: "The e g r e e o p r e r e e u t o o r g v e p t h h l l o t u e t p u t y o the ollow g: the e x t e e o o t h e r r o u t e , the o - e x t e e o o t h e r r o u t e , o r the p t h t t r u t e o o t h e r r o u t e".

The , the e x t e t e e h o u l e h g e ollow : "P t h e l e t o the o t o v u l p p l t o o the e g r e e o p r e r e e u t o t o e h e l e p t h , o l l o w e y the h o e o the o e w t h the h g h e t e g r e e o p r e r e e."

4. *St I ty o Route (m)*

The metho outl e l u e 8.11 l m t e t o the e t e t o o t u t o w h h S r e e v e route rom e t S, th route o t o e o the R D o t e w t h the l o l S the R D _ P T H o the U P D T E P D U . S u h o t o r e w h e the v e r t g S o p e r t g w t h o u t t e r o u t e g o r m t o , u t the t u t o w l l r e t y t e l o o the u r r e t r o u t e g o r m t o r e e v e . W e o t e t h t p e r m e t o l l t o o t p e r t u l e t w o o t o o u r :

- The r e e v g S e e t o v e r t e e w r o u t e
- The o t h e r S e e t o h g e t e l e t e r o u t e e o r e the e w U P D T E P D U r r v e

u t the e o t o o t p e r t e t e l y u l e t h e r e p e r e t y h r o m e t w e e the U P D T E P D U e x h g e y the t w o S -- t h t , the U P D T E P D U l w y r o t r t .

However, the D-text or DRP ow p e e the t o o " t t e r" t o the t m e r u e t o o t r o l the p r o p g t o o U P D T E P D U S , t h u m g p e r e t y h r o z t o e x t r e m e l y u l e l y t u t o . T h u , l t h o u g h o t h r m u l , the metho o l u e 8.11 e e m t o e l r g e l y u p e r l u o u .

H e e , e e o e e t r e t g l u e 8.11 , r e o m m e t h t t e e l e t e t e t r e t y r o m D R P . y p r o u t o t e l e t o , e x o l o g e r p e r t e t , h o u l t h e r e o r e e e l e t e w e l l .

5. *Exter I Up te (m)*

o t e t h t l u e 8.1 .2 (E x t e r I U p t e) the p r o e u r e o l u e 8.1 .1 (t e r I U p t e) m u t e o e e o r e p r o p g t g U P D T E P D U o u t o g v e r o u t e g o m . H o w e v e r , w e e e o r e o o r the u r t h e r r e t r t o m p o e 8.1 .2 t h t t e r l v e r t e m e t m u t e o w l - e g e e o r e the e x t e r l v e r t e m e t t e p l e . The e o p r g r h o 8.1 .2 y t h t t h e e e " t o u r e t h t o t e t o r m t o w l l e p r o p g t e e x t e r l l y" . H o w e v e r , o r g t o 8.15.2 , the p r o t o l p e e o o r r e t v e t o t o e t e e v e o t e y e t e t e : t m e r e l y r e p o r t e t o y t e m m g e m e t . o t h e r w o r , r e e p t o o w l e g e m e t (o r l t h e r e o) o e o t g u r t e e o t e y . T h u , the r e q u r e m e t t o w t o r o w l - e g e m e t u p e r l u o u , r e o m m e t h t the e o p r g r h o l u e 8.1 .2 h o u l e e l e t e t e t r e t y .

. *De t t o w t h the RD (m)*

g v e S r u g t D e o P r o e o r e r t o e l e t r o u t e t o e t t o t h t r e l o t e w t h t o w r o u t e g o m , t h e r e l e r l y o e e t e l e t g p t h t h l e v e t r o u t e g o m the l t e r o m e t o t :

- The D R P S o r w r g P r o e w l l o t p e r m t P D U t o o l l o w u h p t h y w y -- e the e t t o w t h the R D , D R P w l l h the P D U o v e r t o the t r - o m p r o t o l o r o r w r g .

- u h pth vert e exte rly, S othe r RD woul ete t SPDU loop g error e the RD o the vert g S' om woul ppe rtw e, there ore the vert e route wll e re error wll e ote (RD_Route g_ oop).

lthough e et lly u ele , u h ho e woul ot ue the DRP proto ol to re . However, eel tht there houl e re tr to DRP th tpre lue S rom ele t g route to et to wth t ow RD th t route h pth egmet th tle out e the lo l RD. We ugget th t toul e pl e 8.17 (De o Pro e), ollow :

- the tl ze wor to the rt e te e o the e o p rgr ph:

The ele to pro e or route to et to th tle out e the lo l route g om orm lze ...

- ert ew th r p rgr ph:

The ele to pro e or route to et to th tle wth the route g om hll o er o ly lo lly ge er te route —th t , o route hll e ele te who e RD_P TH ttr ute ot RD wh h ot o te wth the lo l RD or o e o the o e er to to wh h t elog .

7. **mxmum PDU Sze (m)**

le rly, whe t rt e OPE PDU to t te o eto to e gh or g S, the lo l S oe ot ow the mxmum PDU ze th t t pro pe t ve p rter wll e pt, oul u ow gly e OPE PDU th t l rger th the peer S' mxmum. Th houl ot e o ere error. There ore, ugget rewor g the orre po g e r pto l ue 7.2 ollow : "...u g e te ger th t repre t the mxmum um er o o tet th t th S le to h le y om g SPDU, othe th OPE PDU."

8. **Retr m o (m)**

lue 8.5.3 e et ot e g the o to upo wh h retr m o houl e toppe the S- S o eto houl e or te . ugget g the ollow g text:

However, o owle gemet re e ve wth the t me pe e the Hol T me el o the et S' OPE PDU, the the lo l S hll ue Stop Evet, e E SE PDU, e ter the OSE-W T t te."

9. **RouteSele to terv l (m)**

lthough the o t t v lue o 30 m ute or the RouteSele to terv l how T le 4 wll ot ue the proto ol to l, t wll re ult low o verge e--o the verge, there wll e 15 m ute "e t me" e ore ewly ele te route vert e. S e t ot t pte th t route wll h ge very reque tly, the ee to vert e ewly ele te route wll o ur rel t vely re- que tly well. However, whe ew route ele te, t e r le to vert e th t to t mely . There ore, t re omme e th t th o t t e h ge to 1 e o .

10. **om g Route (e)**

The l t p rgr ph o lue . omewh t et hy oe ot equ tely port y the more et le m ter lo ggreg to th t pre e te lue 8.17.5 t u lue. S e th lue orm t ve, t ee ot pre e t y te h l et l. te , t ugge te th t t woul e more help ul to elete t t e t rety, to the ollow g m ter l to the e o the prev ou p rgr ph:

or example, the pole user error to greg te p th ttr ute , R , or
 etre route , e re more uly lue 8.17.5 t u lue .

11. *er o egot to (e)*

or l rty, lue 8.7 houl meto tht the h ghet ver o um er upporte y the lo l S
 ot e m ge o et **ver o** .

12. *H l go SSSE DSSE (e)*

The m ter l lue 8.12.3, tem " " pe o o tr t o the SSQOS DSQOS
 ttr ute . However, the text oe ot prov e equ v let o tr t or SS SE UR TY DS
 SE UR TY, wh h re tre te ex tly the me wy DRP. There ore, re omme tht two
 ew tem e e to the l t, u g the text o ex t g " " , w th SE UR TY u t tute or
 QOS.

13. *ex : ommo Su etwor (e)*

e o the u o t the erl meet g, tw gree tht DRP wll e P ter-om
 route g proto ol, wll ot ter e re tly to OS erv e. S e DRP ter e re tly o ly
 to SO 8473, u g t S P, the m ter l ex o lo ger relev t to the oper t o o
 DRP. There ore, re omme tht th orm tve ex houl e elete .

However, elev g t worthwh le to e re how o e m ght er t th t pro S re lo te
 o the me u etwor , ugget tht the ollow g ote e e to lue .9.2:

ote: the e e o mplemetto pe metho or ert g tht S l te
 m ge o et **EXTER - S-E HORS** lo te o ommo u etwor w th tel ,
 g ve S et the l et me el o the SO 8473 PDU wh h e pul te t SPDU
 to v lue o 1. S e the l et me el wll e ereme te (to 0) y the r t etwor et ty
 th t re e ve the e pul t g PDU, the SPDU wll ot e el vere to S th t
 lo te more th gle u etwor hop wy.

14. *lue 8.17.3 lue 8.17. (e)*

The e lue re log lly out o or er w th re pe t to the rem er o lue 8.17. lue 8.1.3
 (P th Selet o) houl e move orwr , o th t to ur mme tely ter urret lue 8.17; or
 o te y, the wor "p th elete o" houl e h ge to "route elete o"; lly, lue
 8.17. (ter to w th Up te Pro e) houl e move mme tely ter urret 8.17.2, "Up t g
 the o-R ". The , the lue wll e more log l or er o pre etto : De o Pro e ,
 Route Selet o , re g Te , Up t g the o-R , ter to w th Up te Pro e .

15. *lue 8.17.4 to 8.17.5. (e)*

og lly, the m ter l pre ete the e lue ot prt o the De o Pro e . t u e
 e et wy to org ze route g orm to ter th ee elete . There ore, re omme
 tht the e lue e re um ere u er ew 2 level lue , to e ettle "E et Org z to
 o Route g orm to".

1. *otet o orm to e (e)*

lthough re er er the otet o DRP' route g orwr g orm to e rom the
 text, th m ter l ot pre ete gle pl e w th the t r. t ugge te th t text
 houl e e to ex t g lue .8 (Selet g the orm to e), th t t houl pre et
 the t le how T le 1 o p ge 5, wh h ollet ummr ze orm to out the R

17. *D4 Re ere e (e)*

The re ere e to "D4" gure 7 pprop r te e the term "D4" ot e e or me to e ywhere the *DRP* text. To orre t th , the ollow g h ge houl e m e:

- h ge "D4 lgor thm" to " *DRP* he um lgor thm" gure 7
- ert logr ph re ere e to R 118 lue 3 ("orm t ve Re ere e")
- Prov e re ere e ex to the lgor thm e r pt o R 118.

T le 1. The <i>DRP</i> orm to e. The ex gvr le otet o the R re how .		
<i>orm to e</i>	<i>exe y...</i>	<i>ot ...</i>
-R -	<ul style="list-style-type: none"> • ETo et S • R -tt 	<ul style="list-style-type: none"> • P th ttr ute • R
o-R	<ul style="list-style-type: none"> • R -tt 	<ul style="list-style-type: none"> • P th ttr ute • R
-R -Out	<ul style="list-style-type: none"> • ETo et S • R -tt 	<ul style="list-style-type: none"> • P th ttr ute • R
	<ul style="list-style-type: none"> • R -tt • R 	<ul style="list-style-type: none"> • ETo ext hop S • Output SP o lo l S • put SP o ext hop S

ote :

1. lo l opt o , S m y ele t to pply orm to re u to te h que to p th ttr ute R orm to .
2. ore h et S, g ve S m t -R - ore h R -tt (lu g the Empty R -tt) th t t upport .
3. S m t epr te o-R ore h R -tt (lu g the Empty R -tt) th t t upport .
4. ore h et S, g ve S m t -R -Out ore h et o R -tt (lu g the Empty R -tt) th t t vert e to th t e gh or.
5. g ve S m t epr te ore h et o R -tt (lu g the Empty R -tt) th t t h vert e to t e gh or S—th t , e h orre po to -R -Out.

To l tte the orwr g pro e , S org ze e h o t S to two o eptu l pr t : oe ot g orm to or R lo te with t ow RD, other or R lo te other RD (ee lue 9). or exte r l R , S urther org ze the orm to e o whether the ext-hop- S lo te with t ow RD or other RD (ee lue 9.4, tem " " " "). lly, or thoe ext-hop S lo te t ow RD, the lo l S org ze the orm to or g to pe orwr g me h m (ee lue 9.4, tem " 1", " 2", " 3").

Appendix . Suggested Repl ement Text or I ue 8.17.1

8.17.1 re g Te m o g Route w th Equ l Degree o Pre ere e

When there are everl route to the me et to tht ll hve the me egree o pre ere e, S hll hoo e gle route rom mo g them eterm t ho. Su h te my re two tu- to :

1. With the ter l up te pro e , S mut elet gle route rom mo g tho e wh h th re e ve re tly rom S lo te e t route g om .
2. With the De o Pro e , S mut elet gle route rom mo g ll tho e ot e t -R - , regle o the lo to o the S tht vert e them to the lo l S.

8.17.1.1 re g Te the ter l Up te Pro e

The elet o pro e te ple two ph e . rt, the lo l S prue the et o route w th equ l egree o pre ere e y ret g, or e h e t route g om , o ly o e o the te route tht th vert e . Se o , the lo l S w ll elet gle route rom mo g tho e ho e tep 1.

1. Sele t g S gle Route rom Tho e Re e ve rom ve e t RD:

rom the route re e ve rom S lo te e h e t RD, the lo l S hll elet gle route, ollow :

- . the te route hve et lpth ttr ute or er o ly the EXT_HOP ttr ute, elet the route tht w vert e y the S who e ET h the lowe t v lue whe t o - ere to e u ge ry te ger.
- . the te route er o ly the r EXT_HOP UT-EXT_DS ttr ute , the lo l S' m ge o et **ult ext** TRUE, elet the route tht h the lowe t v lue o the UT-EXT_DS ttr ute. the m ge o et **ult ext** l e, elet the route vert e y the S who e ET h the lowe t v lue whe t o ere to e u ge ry te ger.
- . the te route er y pth ttr ute other th EXT_HOP UT-EXT_DS , elet the route tht w vert e y the S who e ET h the lowe t v lue whe t o - ere to e u ge ry te ger.

2. Sele t g S gle Route or vert eme t:

t the omplet o o th rt tep, the lo l S h orme et tht ot o e route tht w vert e y e ho t e t RD. rom th et, the lo l S hll elet the route tht w vert e y the S who e ET h the lowe t v lue whe t o ere to e u ge ry te ger.

8.17.1.2 re g Te the De o Pro e

The elet o pro e te ple two ph e . rt, the lo l S prue the et o route w th equ l egree o pre ere e y elet g gle route rom mo g tho e vert e y e h e t route g

om . Se o , the lo l S w ll ele t gle route rom mo g tho e ho e tep 1. Th
 ele to pro e ept put ll route reg r le o whether they were vert e y S the
 lo l route g om or S e t route g om .

1. Sele t g S gle Route vert e y E h e t RD:

The route th t re to e ex m e my h ve ee vert e y the lo l S e ther re tly y S
 lo te e t RD, or they m y h ve ee re- tr ute to t y other S lo te the
 lo l S' ow RD. e ther o the e e, the RD o the e t RD (or RD) e
 eterm e y ex m g the l t RD l te the RD_P TH ttr ute o the te route .

rom e h et o te route w th the me v lue or the r l t RD , the lo l S h ll ele t
 gle route, ollow :

- . the te route h ve e t l p th ttr ute or er o ly the EXT_HOP ttr ute,
 ele t the route th t w vert e y the S e t route g om who e ET h
 the lowe t v lue whe t o ere to e u ge ry te ger. Otherw e, ele t the
 route th t w vert e y the S the lo l route g om who e ET h the lowe t
 v lue.
- . the te route er o ly o ly the r EXT_HOP UT-EXT_DS ttr ute ,
 the lo l S' m ge o e t **ult ex t** TRUE, ele t the route th t h the lowe t v lue o
 the UT-EXT_DS ttr ute.
 the m ge o e t **ult ex t** l e, ele t the route vert e y the S e t RD
 who e ET h the lowe t v lue whe t o ere to e u ge ry te ger. Other-
 w e, ele t the route th t w vert e y the S the lo l route g om who e ET h
 the lowe t v lue.
- . the te route er y p th ttr ute other th EXT_HOP UT-EXT_DS ,
 ele t the route th t w vert e y the S who e ET h the lowe t v lue whe t o -
 ere to e u ge ry te ger.

2. Sele t g S gle Route or vert eme t:

t the omplet o o th r t tep, the lo l S h e t l he e t th t o t o e route to e h
 o t e t RD. rom th et, the lo l S h ll ele t the route th t w vert e y the S
 who e ET h the lowe t v lue whe t o ere to e u ge ry te ger.