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DESIGN QUALITY OF SECURITY SERVICE NEGOTIATION PROTOCOL

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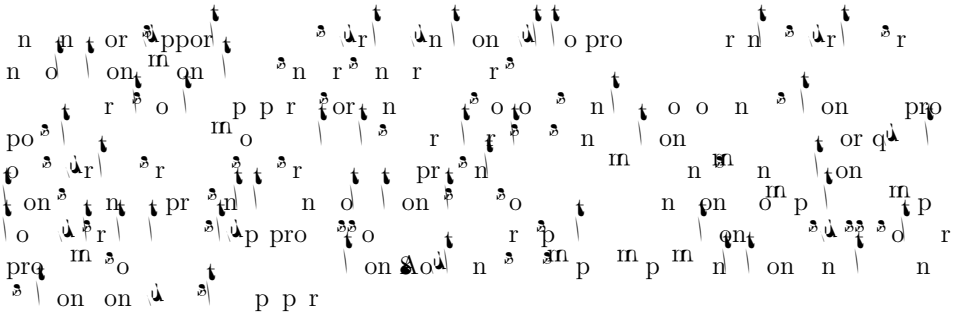
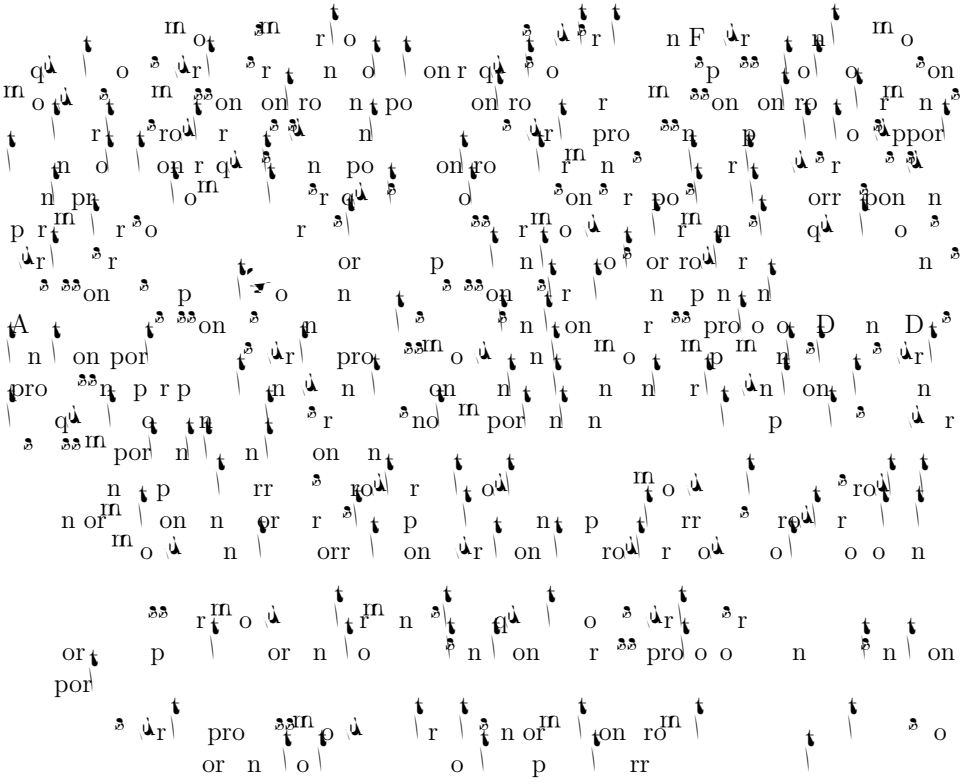
Abstract. With future network equipment the security service becomes a critical and serious problem. Especially in the network, users do not want to expose their message to others or to be forged by others. They make extensive use of cryptography and integrity algorithms to achieve security. The sender can achieve the high quality of security service ulnd securita(r)-5.15831(e-0.308961(v)5.15831(a)-1.80272())-387.

1 INTRODUCTION

Definition 1



2 SSRSVP MODEL



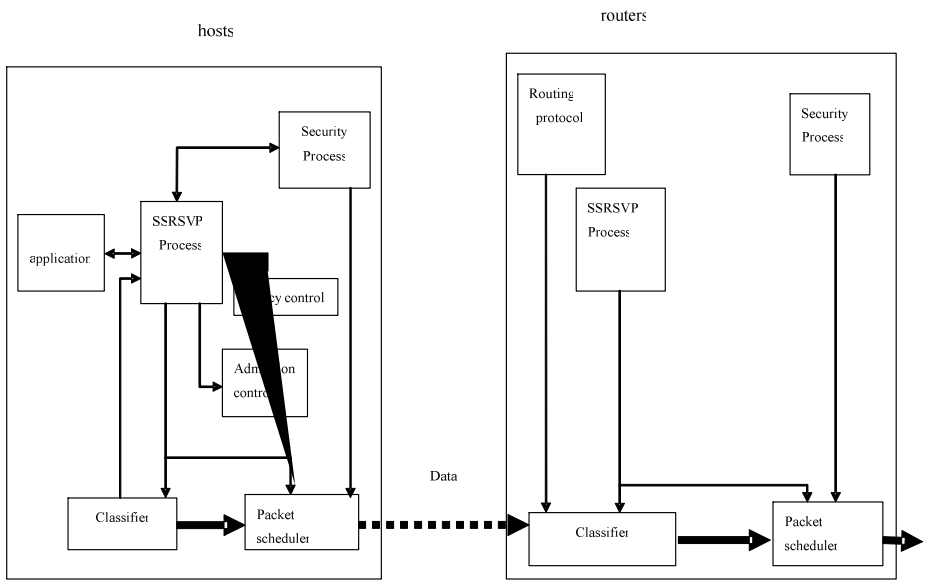
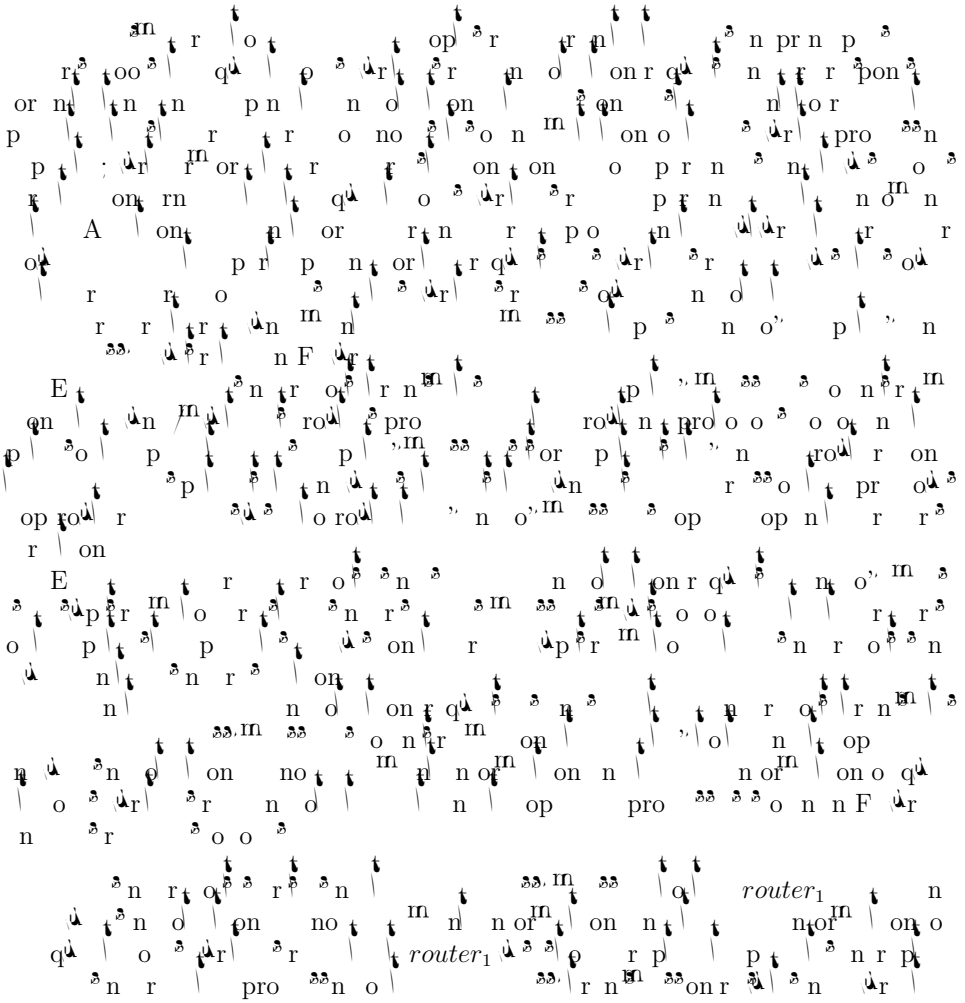


Figure 1 SSRSVP model in hosts and nodes

- — p Err
- — n oErr
- — r
- — n o r
- — n oCon
- —
- —
- —

4 SSRSVP MECHANISMS



F ,, r rn o n r o r o o n op r on r p r or

router$_1$ n , n n or on n n or on o q o r r *router*$_2$ o r p p n r p *router*$_1$ *router* n r n o *router*$_1$ r ro n r pro *router*$_2$ r rn F , o *router*$_1$ n n *router*$_1$ r rn F , o n r o pro o o n op r on r p r or

router$_3$ n r n rn , o r r r r rn , o *router*$_3$ n *router*$_3$ r rn , o *router*$_2$ n o on n n n r f n , n r n n o r n r on p , o r r

o o pro o , r n on n p p r r n n o n n r o r n r on K'' n n r p E$_K$ n n r o p o *router*$_1$ o n r p on K'' n n r p E$_{router_1}$ K, E$_K$ A n r pr o n r p n p n r p , n on E$_{sender}$ *timestamp*, E$_{router_1}$ K, E$_K$ n or r o *router*$_1$ o op r on , n r n *router*$_1$ n o r p

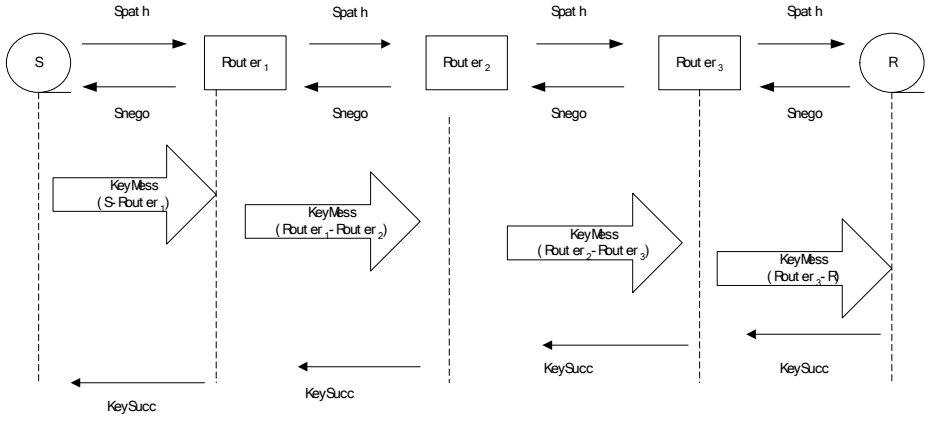
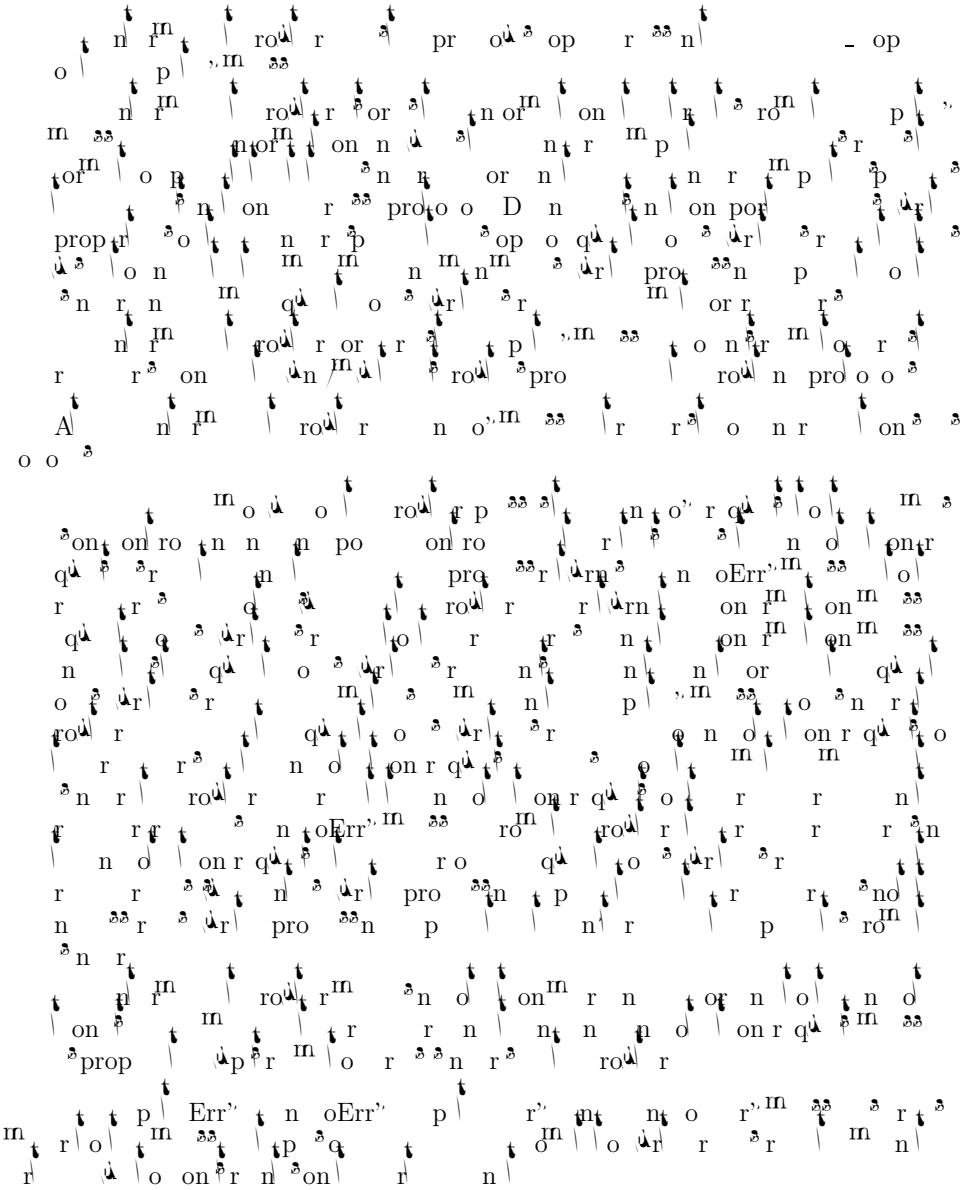


Fig. 3. SSRSVP mechanism

A n r m r o r p , r r r n r on o o o N o p , m p n on n po on ro o ro r



5 NEGOTIATION STYLE OF SSRSVP

r n on op n n or n r o m n on op n r n rr n
p r r q p r r no o
m n r r or n r n or r r o
p q o r r o n o on r q o m m
n r o r n r q

Des n ua ty of ecur ty erv ce Ne ot at on Protoco

cryptography and integrity algorithms	DES and MD5	3DES and MD5	1024 bits RSA and MD5	1024 bits RSA and SHA	2048 bits RSA and SHA
Quality of security service level	1S				

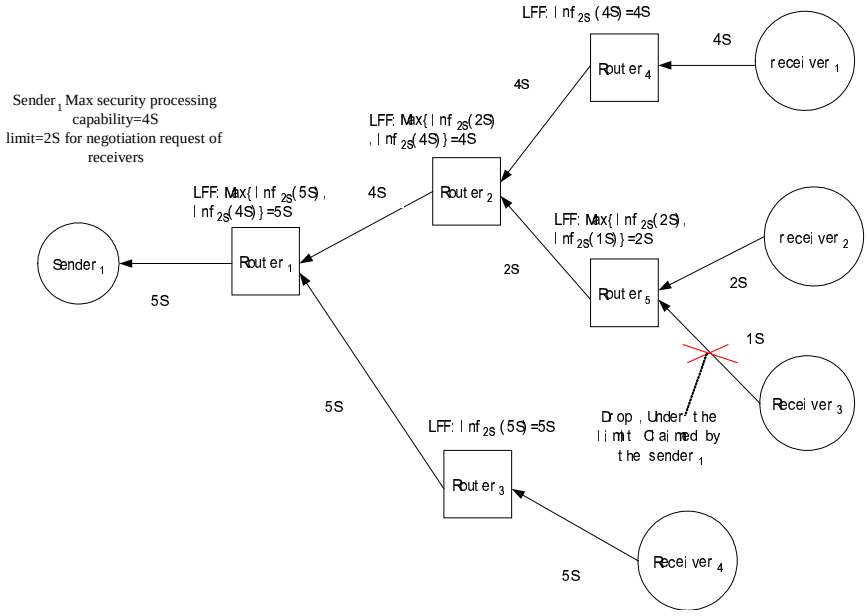


Fig. 6. One complete SSRSVP negotiation request example from one source node to the four different receiver nodes using LFF style

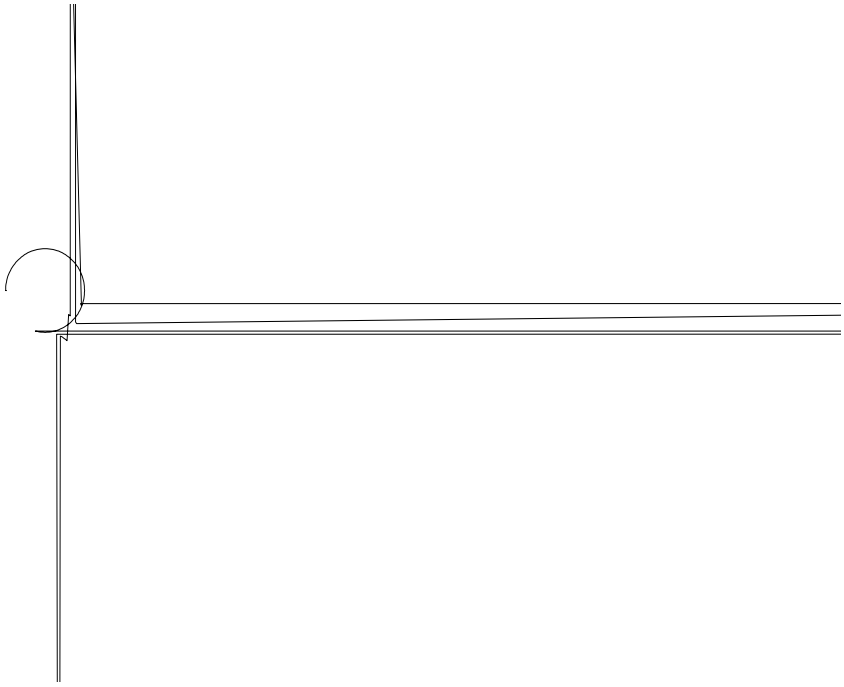
on o q o r r *router*1 o r p p n r p n r n o r r ro *sender*1 *router*1 n n o on no n or on n n or on o q o r *router*2 n *router*3 o r p p n r p *router*1 r p n o r r no r p m r r n F r n F r n FF n FF r p

7 DISCUSSION ABOUT SSRSVP

7.1 Tear, Error Message and Policy Control

r o n m r m o p or n o on mm r r o p o r o n p r n n o r A p r m r r r o r r o n r m ro po n o n on n p p n n o on on A n o r m n o on n r o r n r p r m ro po n o n on m r r r o rror m p Err n n oErr p Err m n p r m o n r r rror n o no n p n ro r o p


Sender$_1$



8 SIMPLE IMPLEMENTATION

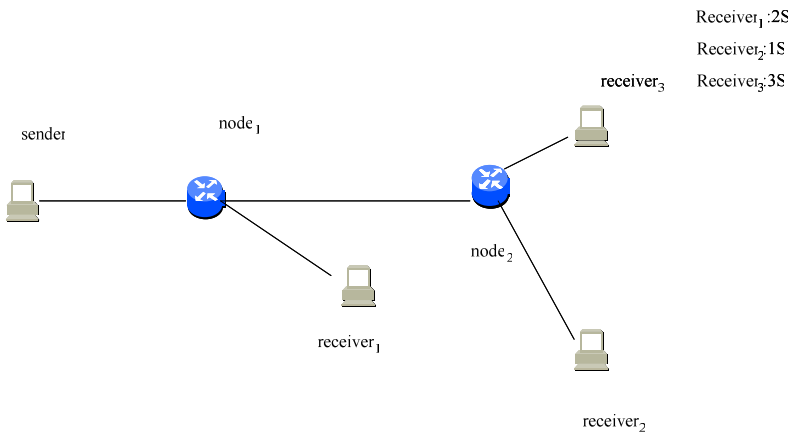


Fig. 9. Experiment paradigm

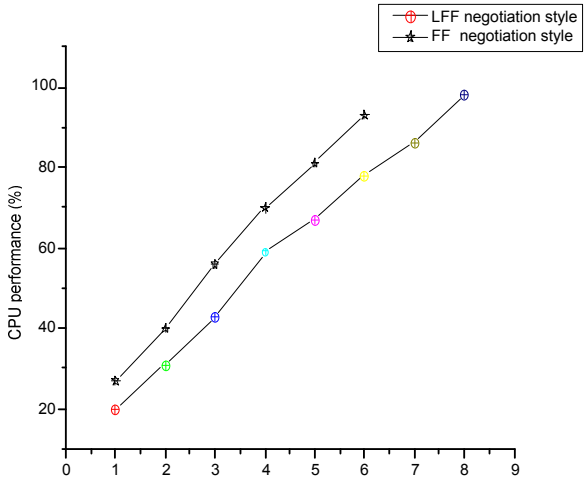


Fig. 10. Throughput out $node_2$ (M bytes/s)

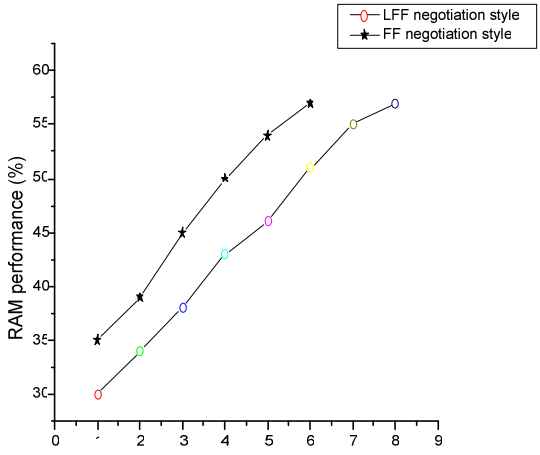


Fig. 11. Throughput out $node_2$ (M bytes/s)

9 SUMMARY

Acknowledgments

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