Session
IN045

Better Invisible than Agile: Application of RFC 1597

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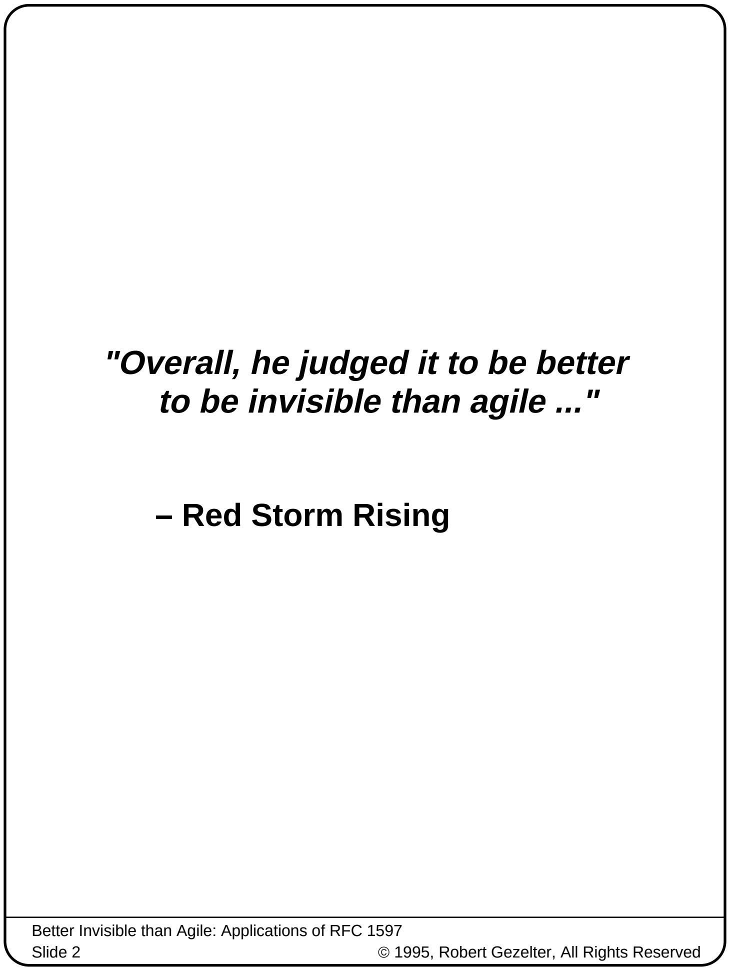
Thursday, November 6, 1997
3:00 pm – 3:50 pm
Room B1

Fall 1997 US DECUS Symposium
Anaheim Convention Center
Anaheim, California



"Overall, he judged it to be better to be invisible than agile ..."

– Red Storm Rising

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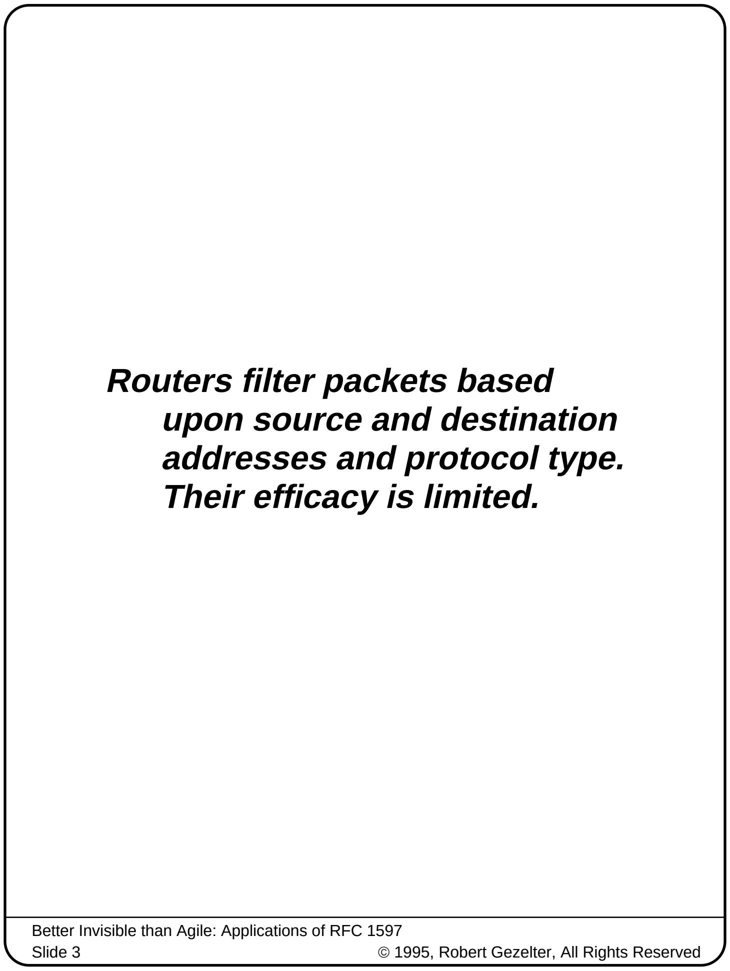

Routers filter packets based upon source and destination addresses and protocol type. Their efficacy is limited.

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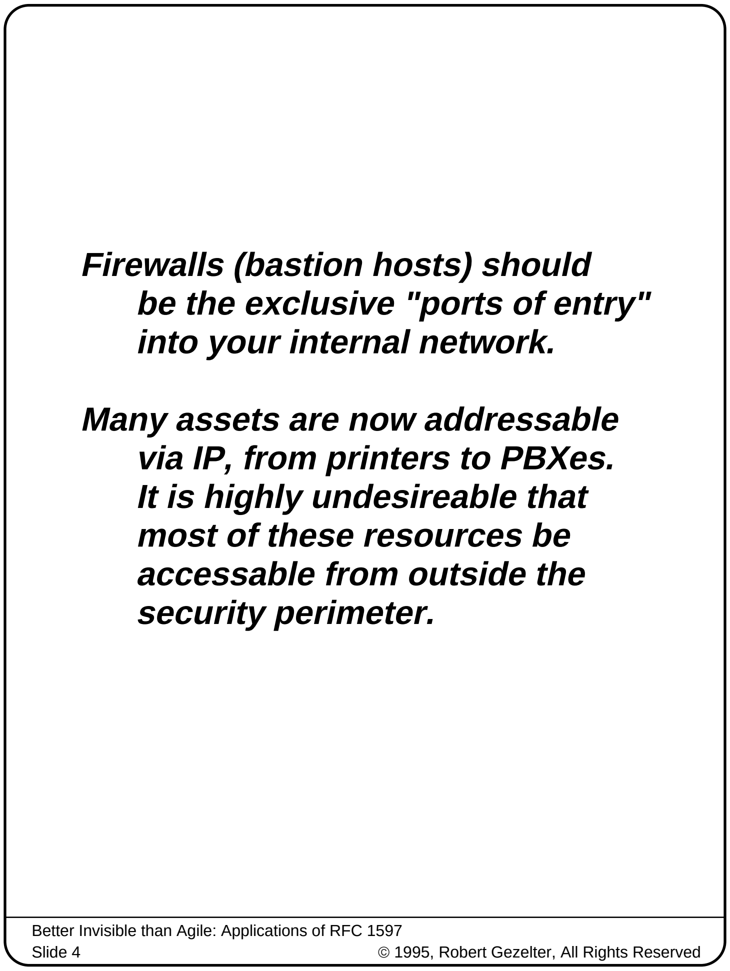

Firewalls (bastion hosts) should be the exclusive "ports of entry" into your internal network.

Many assets are now addressable via IP, from printers to PBXes. It is highly undesireable that most of these resources be accessable from outside the security perimeter.

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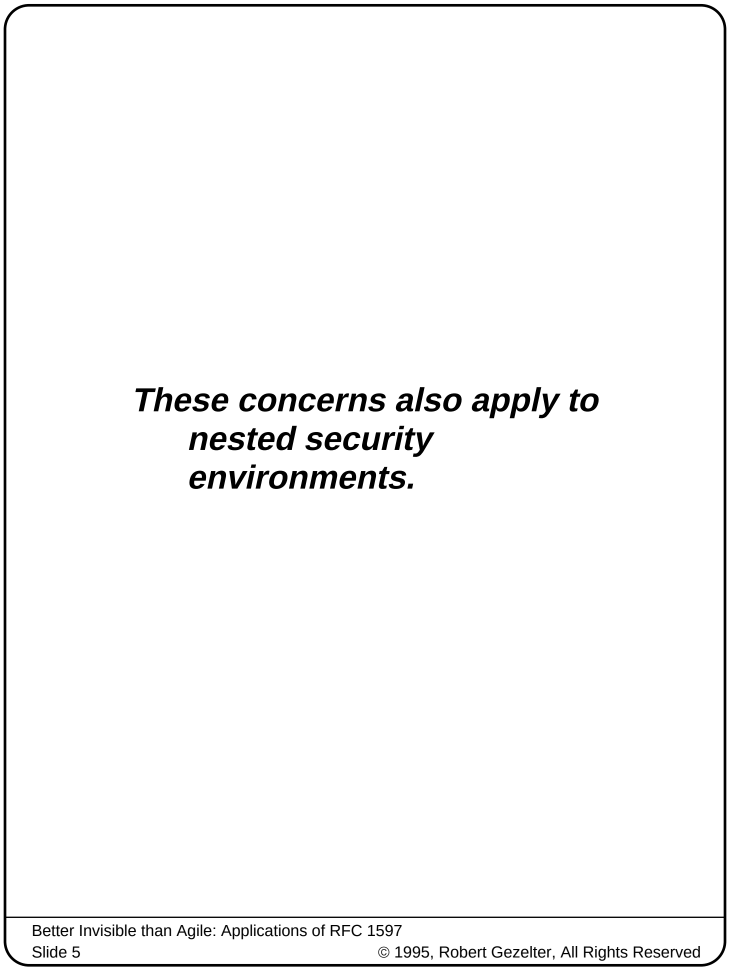

These concerns also apply to nested security environments.

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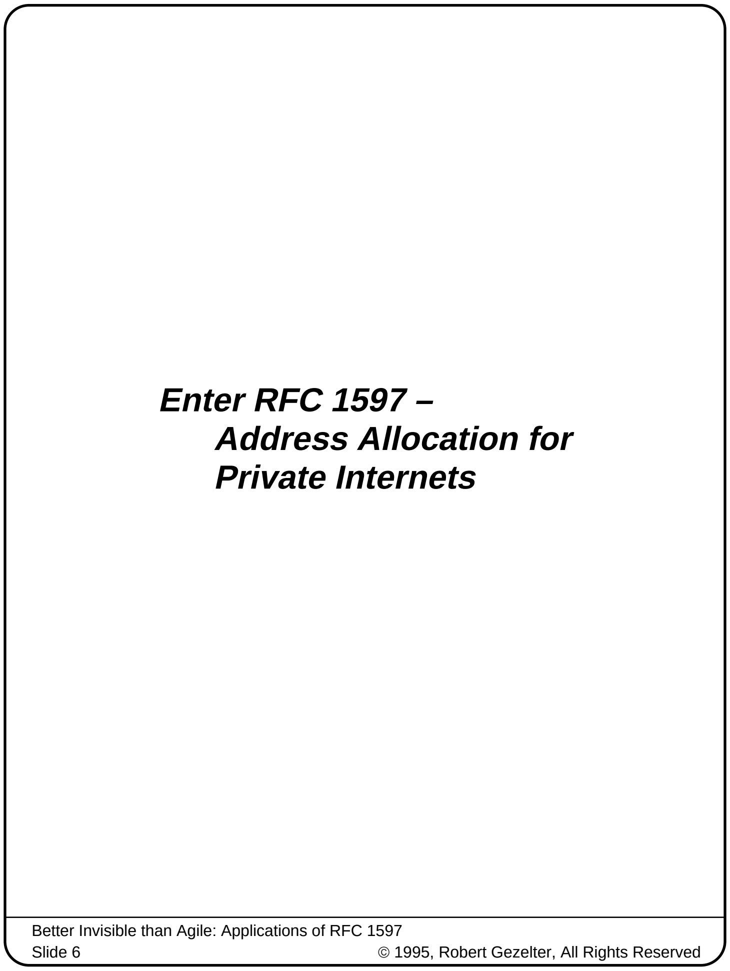

Enter RFC 1597 –
Address Allocation for
Private Internets

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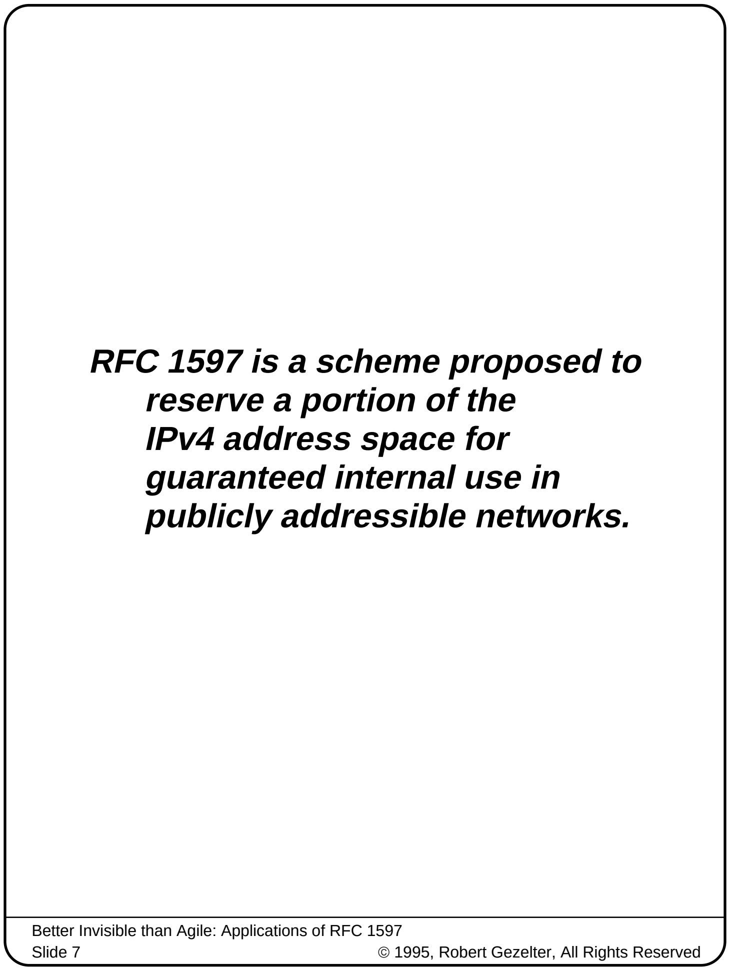

RFC 1597 is a scheme proposed to reserve a portion of the IPv4 address space for guaranteed internal use in publicly addressible networks.

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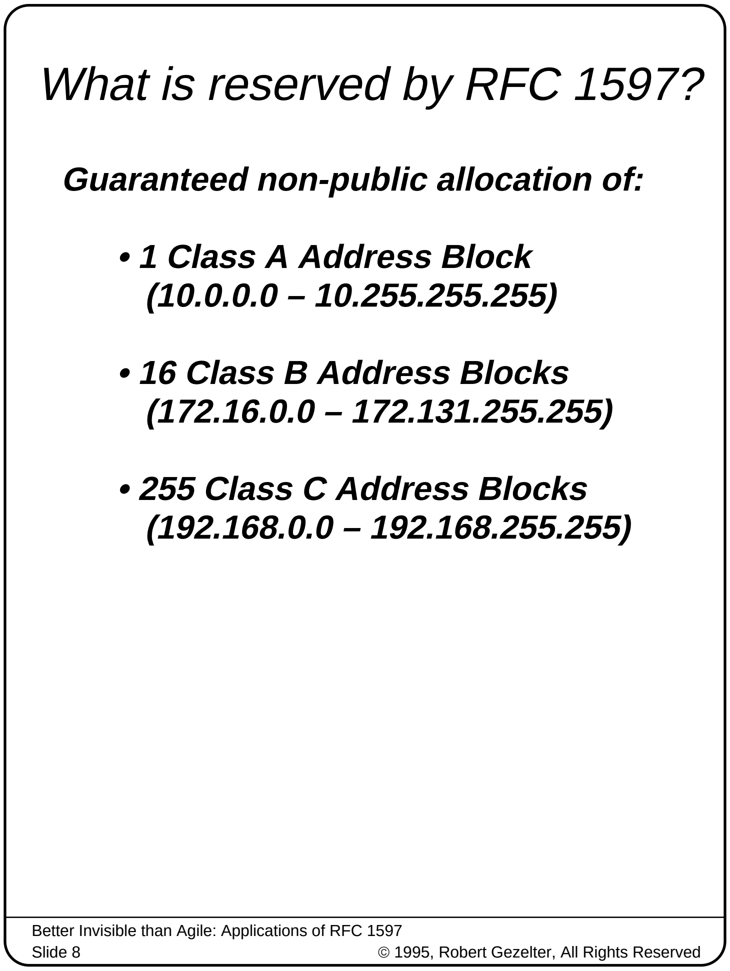

What is reserved by RFC 1597?

Guaranteed non-public allocation of:

- ***1 Class A Address Block (10.0.0.0 – 10.255.255.255)***
- ***16 Class B Address Blocks (172.16.0.0 – 172.131.255.255)***
- ***255 Class C Address Blocks (192.168.0.0 – 192.168.255.255)***

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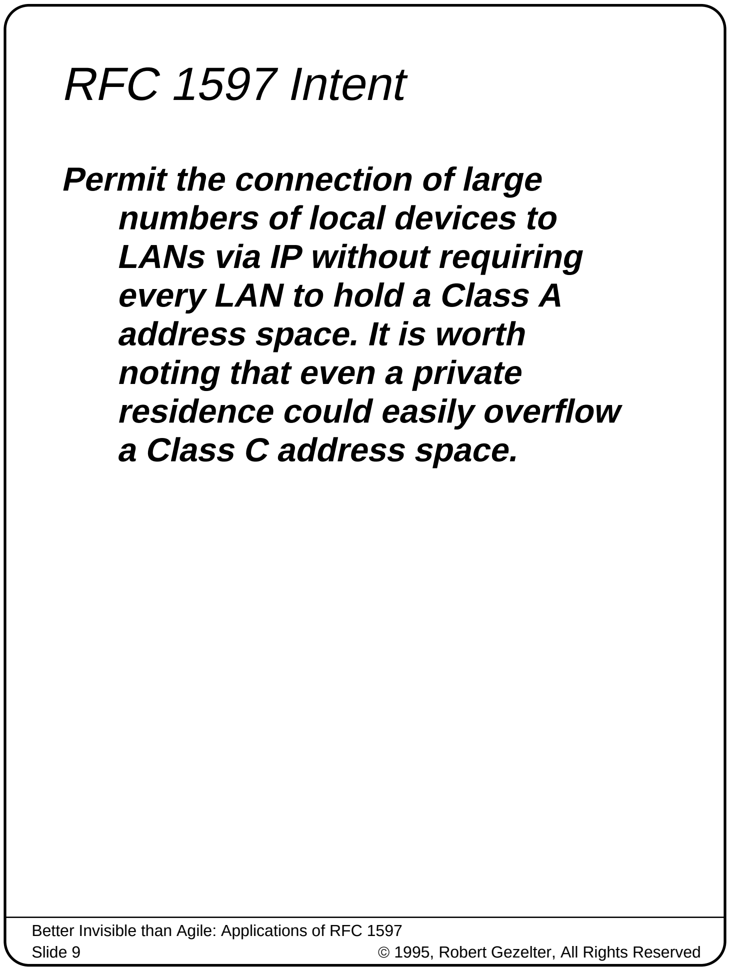

RFC 1597 Intent

Permit the connection of large numbers of local devices to LANs via IP without requiring every LAN to hold a Class A address space. It is worth noting that even a private residence could easily overflow a Class C address space.

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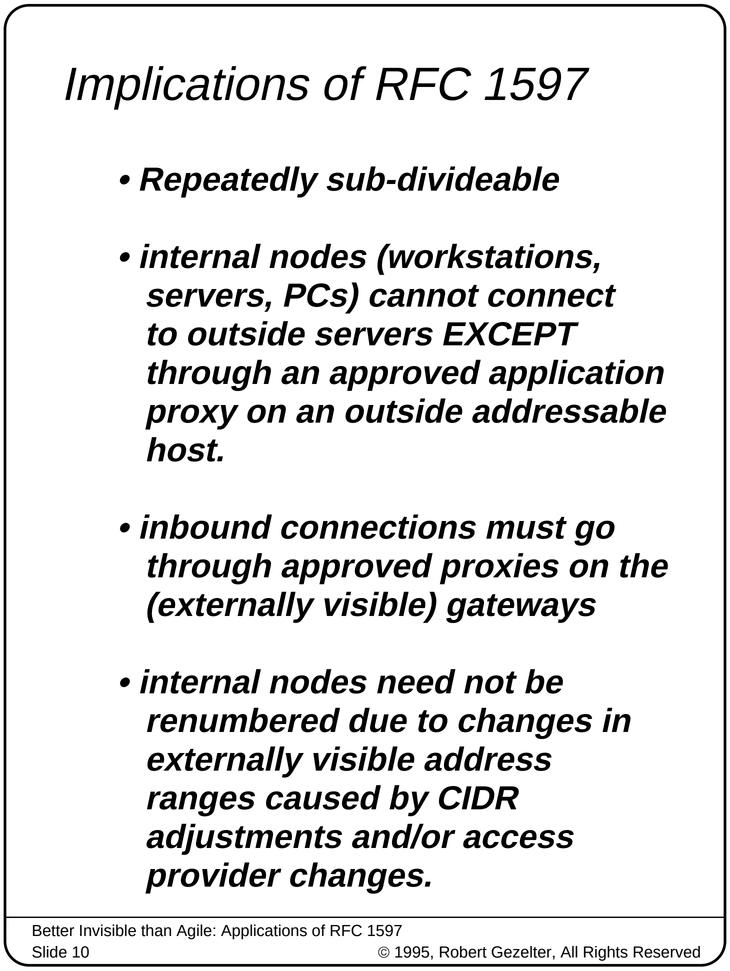

Implications of RFC 1597

- ***Repeatedly sub-divideable***
- ***internal nodes (workstations, servers, PCs) cannot connect to outside servers EXCEPT through an approved application proxy on an outside addressable host.***
- ***inbound connections must go through approved proxies on the (externally visible) gateways***
- ***internal nodes need not be renumbered due to changes in externally visible address ranges caused by CIDR adjustments and/or access provider changes.***

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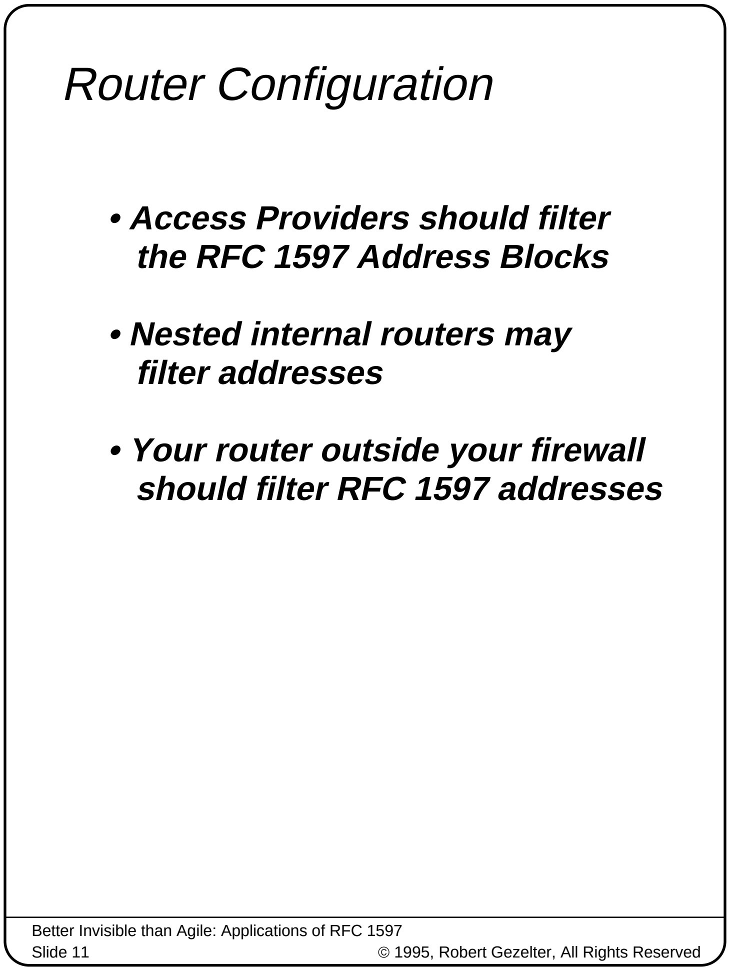

Router Configuration

- ***Access Providers should filter the RFC 1597 Address Blocks***
- ***Nested internal routers may filter addresses***
- ***Your router outside your firewall should filter RFC 1597 addresses***

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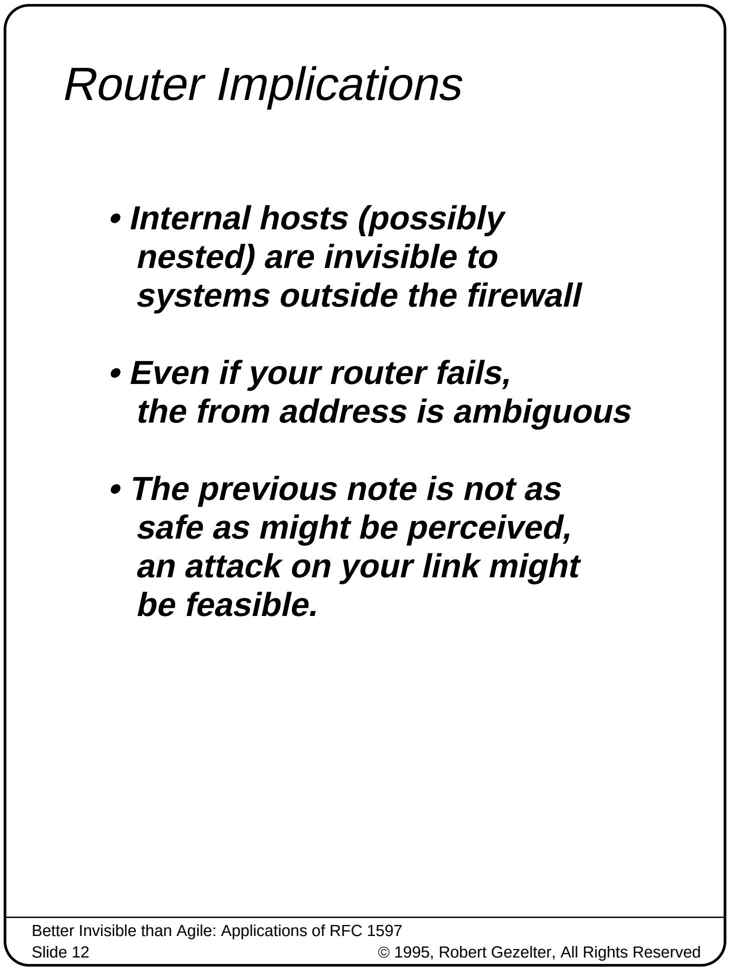

Router Implications

- ***Internal hosts (possibly nested) are invisible to systems outside the firewall***
- ***Even if your router fails, the from address is ambiguous***
- ***The previous note is not as safe as might be perceived, an attack on your link might be feasible.***

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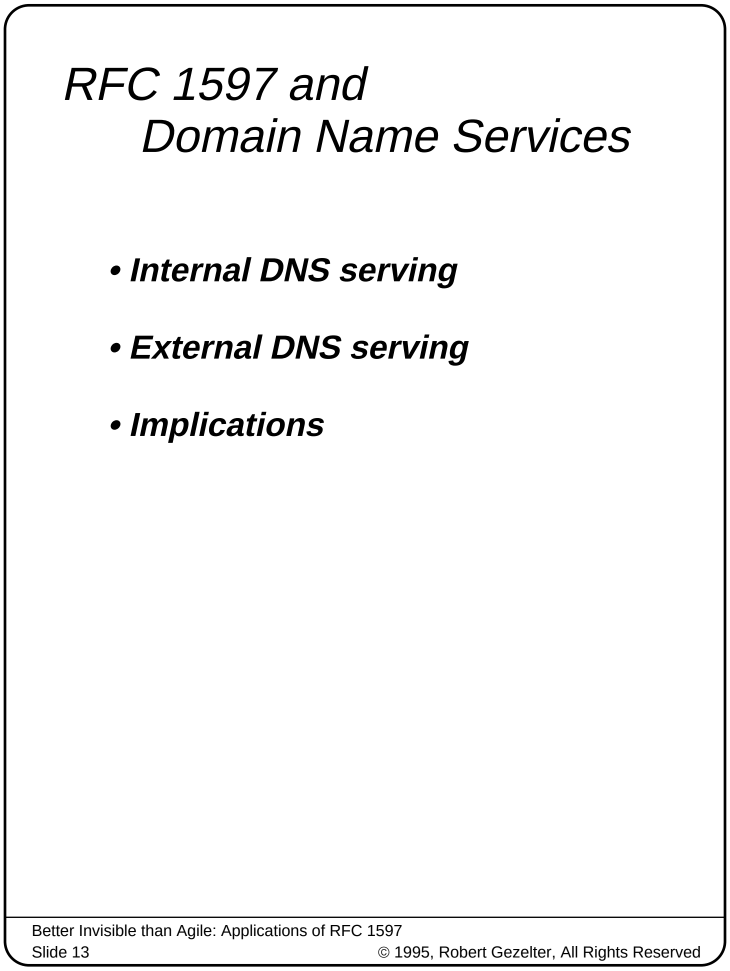

RFC 1597 and Domain Name Services

- ***Internal DNS serving***
- ***External DNS serving***
- ***Implications***

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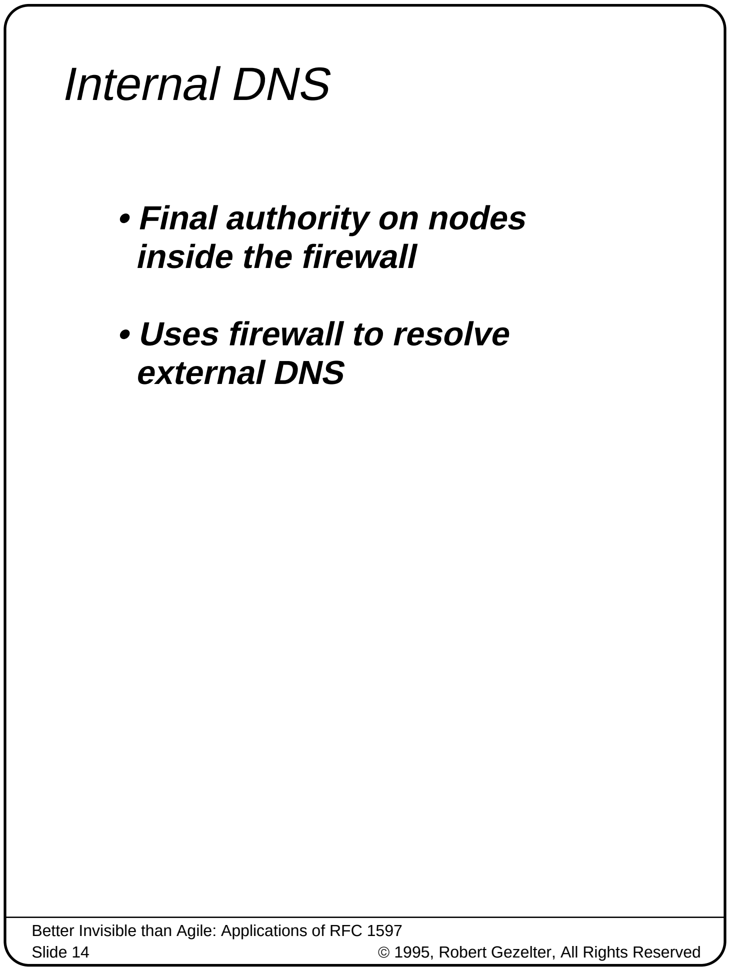

Internal DNS

- Final authority on nodes inside the firewall
- Uses firewall to resolve external DNS

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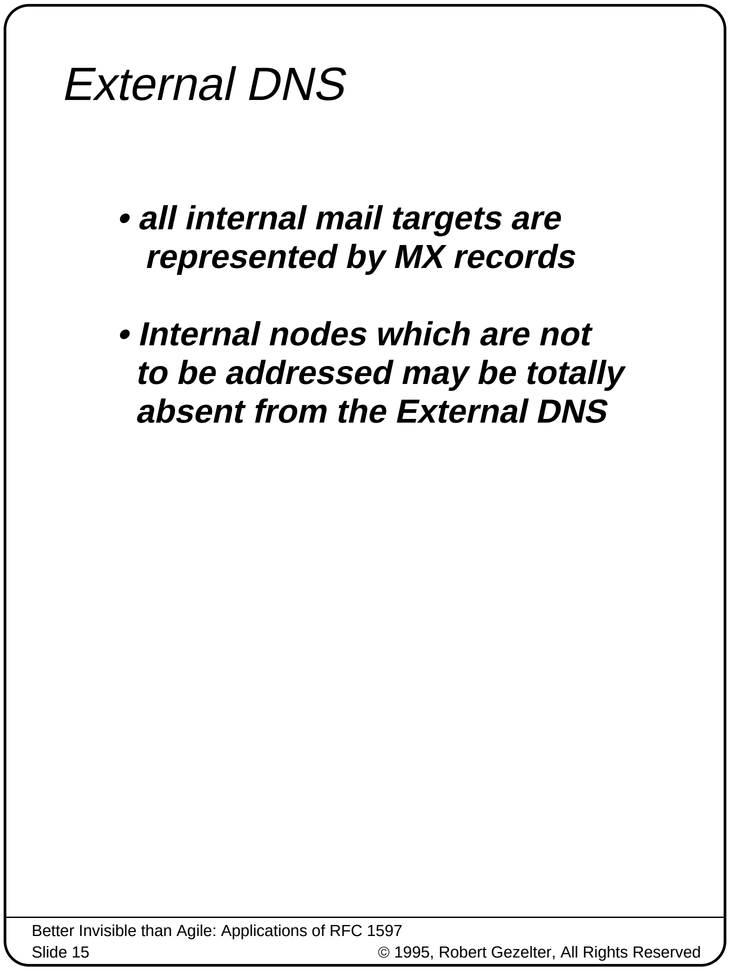

External DNS

- all internal mail targets are represented by MX records
- Internal nodes which are not to be addressed may be totally absent from the External DNS

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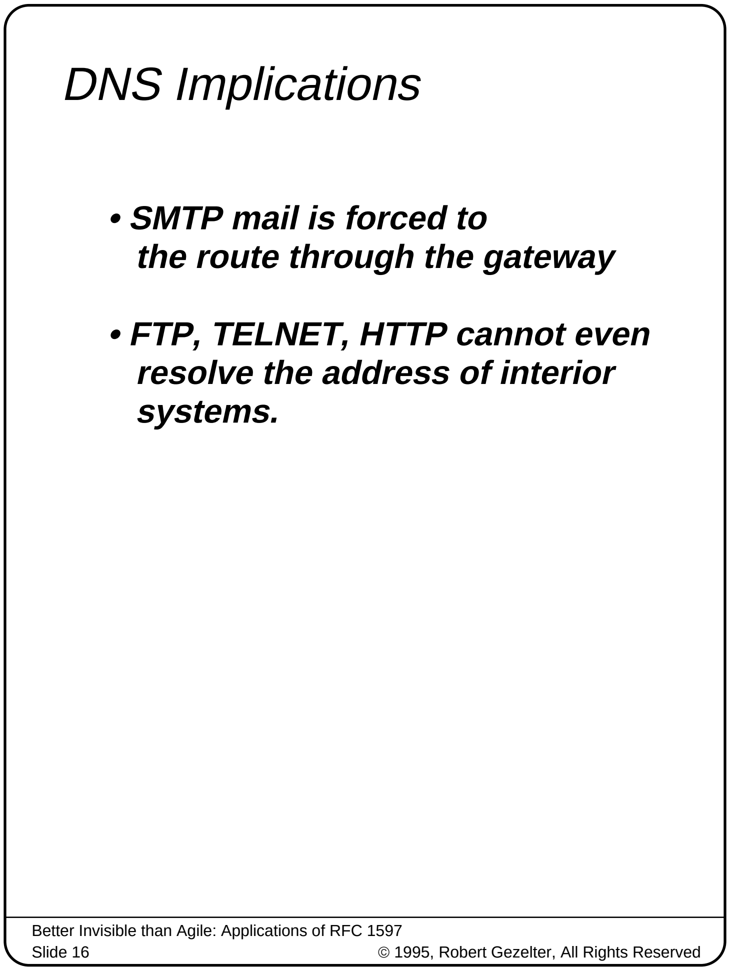
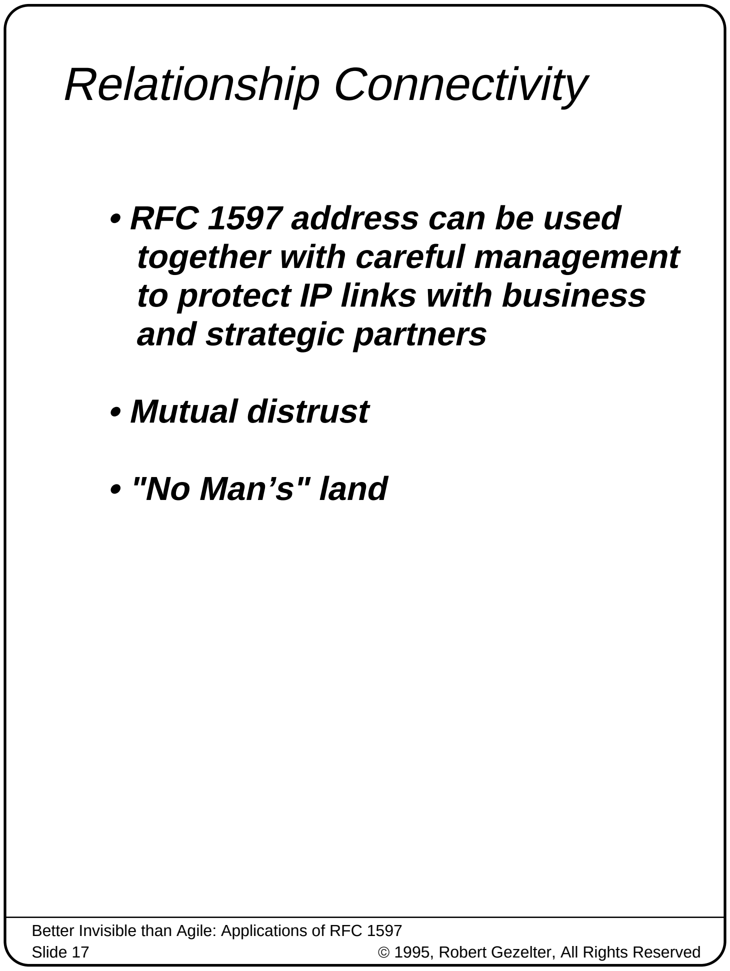


DNS Implications

- ***SMTP mail is forced to the route through the gateway***
- ***FTP, TELNET, HTTP cannot even resolve the address of interior systems.***



Relationship Connectivity

- ***RFC 1597 address can be used together with careful management to protect IP links with business and strategic partners***
- ***Mutual distrust***
- ***"No Man’s" land***

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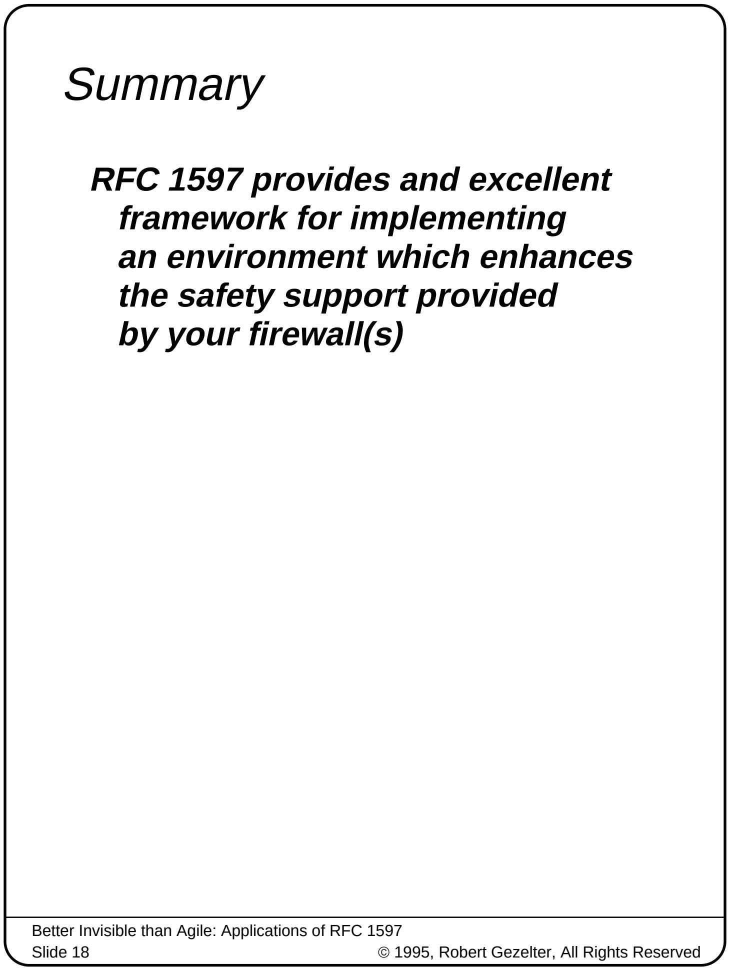
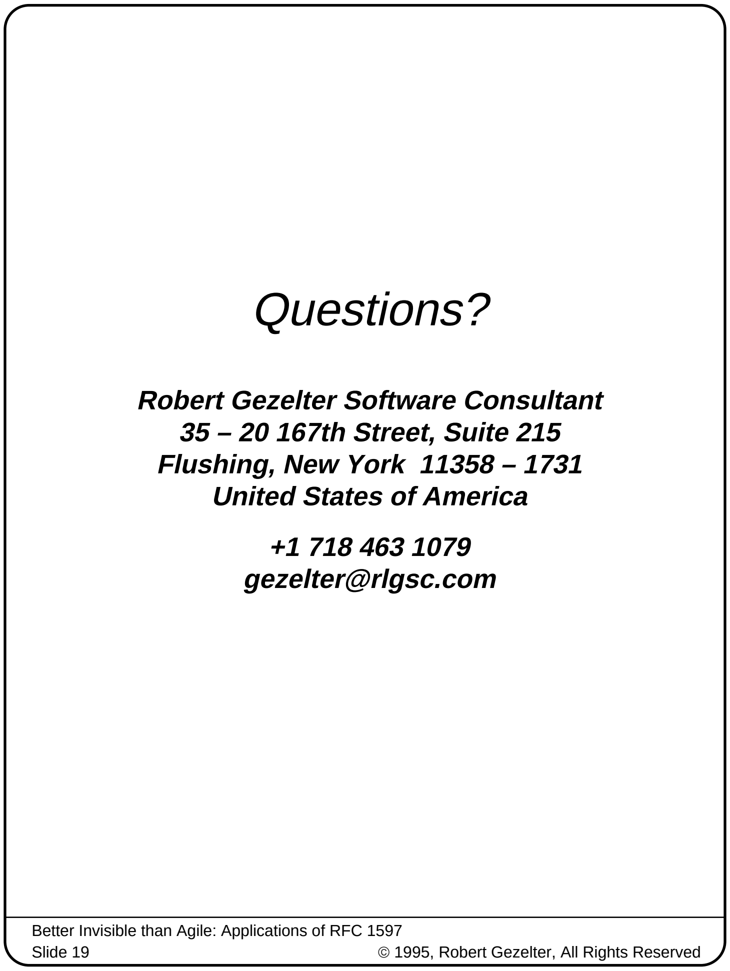


Summary

RFC 1597 provides and excellent framework for implementing an environment which enhances the safety support provided by your firewall(s)



Questions?

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