

Exim and Debian

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What has Debian done for Exim?

- The good news:
Debian's choice of Exim caused it to be spread more widely
- The bad news:
Debian's choice of Exim caused it to be spread more widely
- I expected Exim to be used by experienced sysadmins who chose it to replace sendmail
Documentation was aimed at Unix-savvy people
- Many Debian users were not experienced and had never run an MTA before
This generated a great need for more 'beginner' documentation
Ultimately this lead to my writing the Exim book

Debian and Exim 3 vs Exim 4

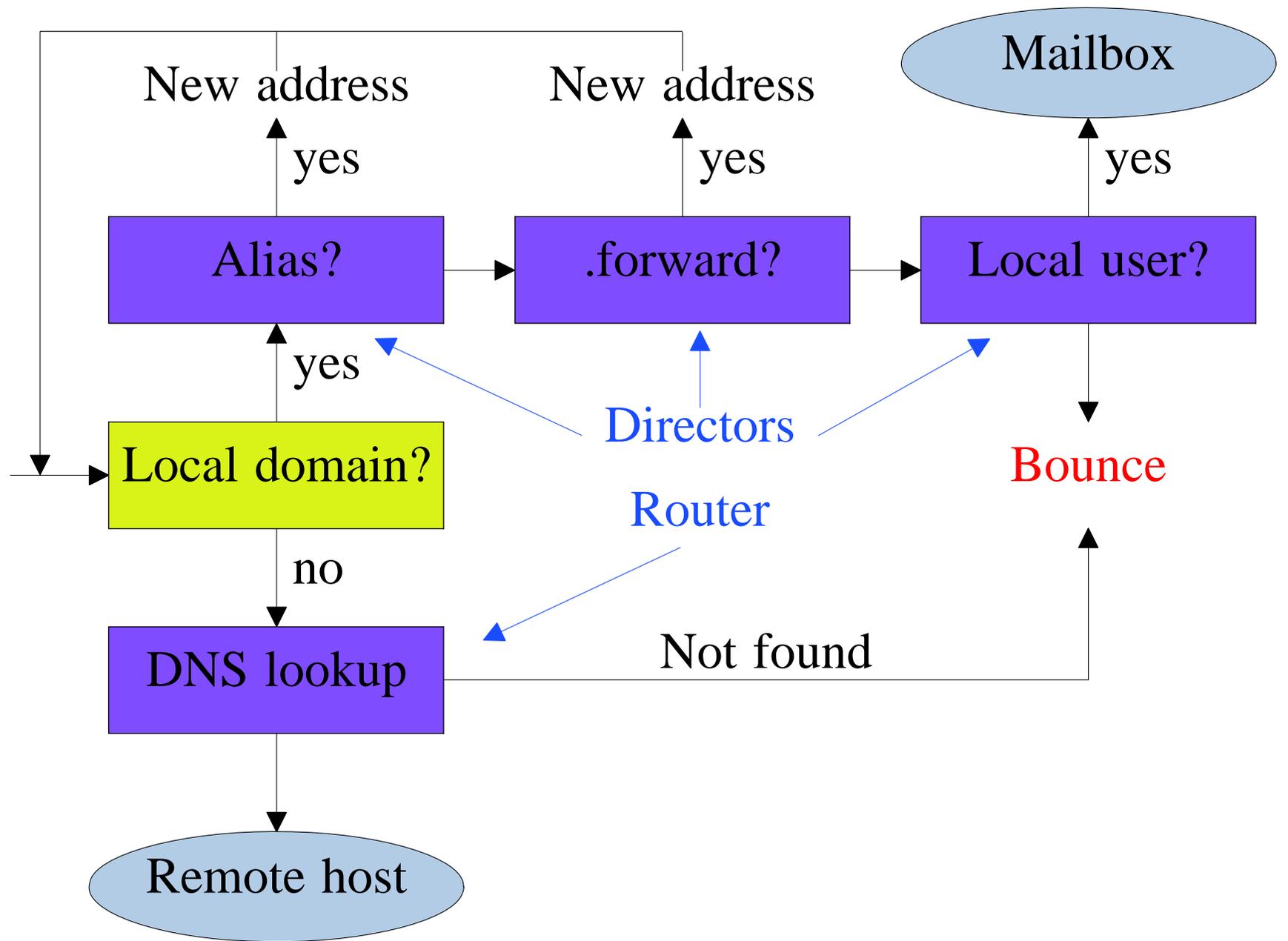
- Exim 4 was released in February 2002
- Debian's conservative upgrade policy has kept Exim 3 around a lot longer than I expected, at least for new users
- I understand the reason for this: it has just been unfortunate
- All the Exim 'gurus' quickly moved to Exim 4
This has made it harder for new Exim 3 users to get help and advice

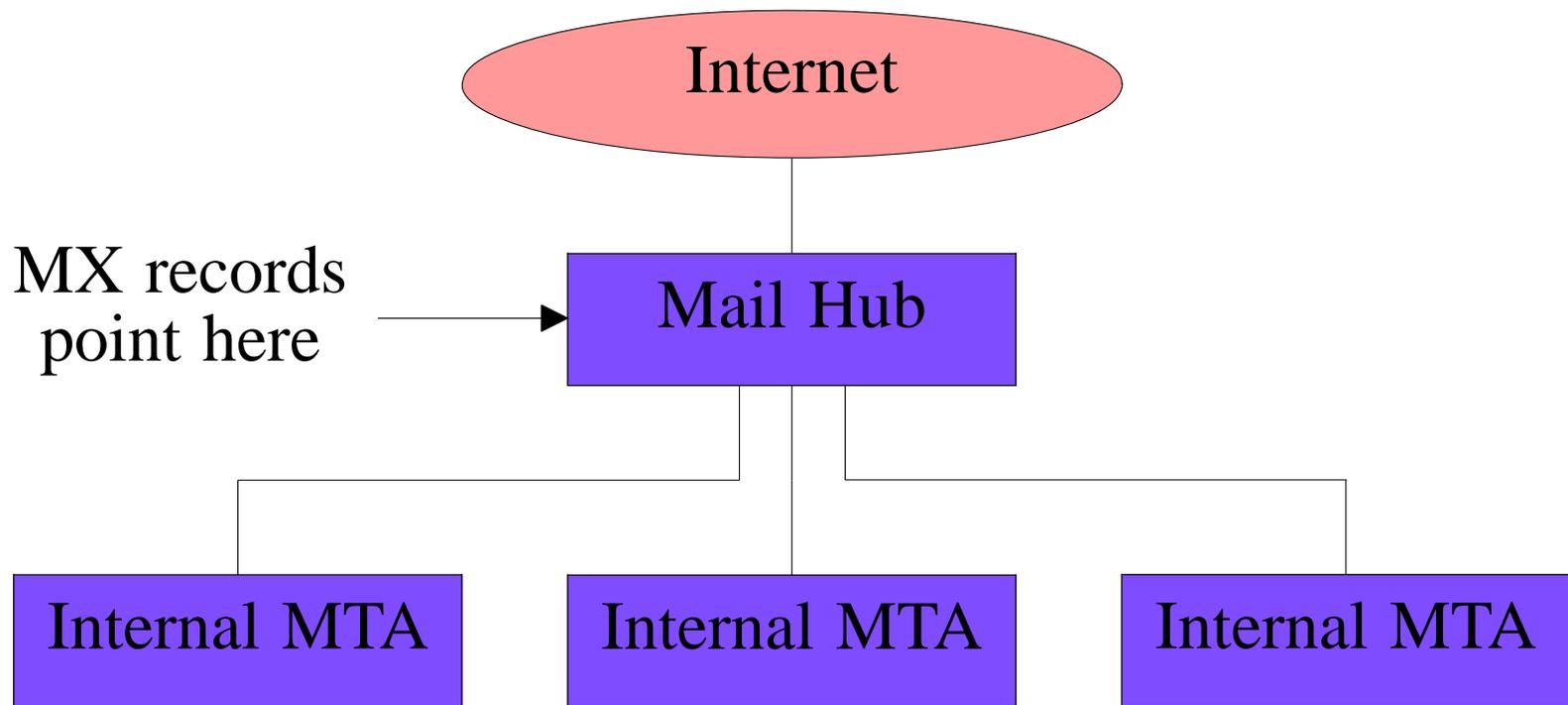
Why Exim 4?

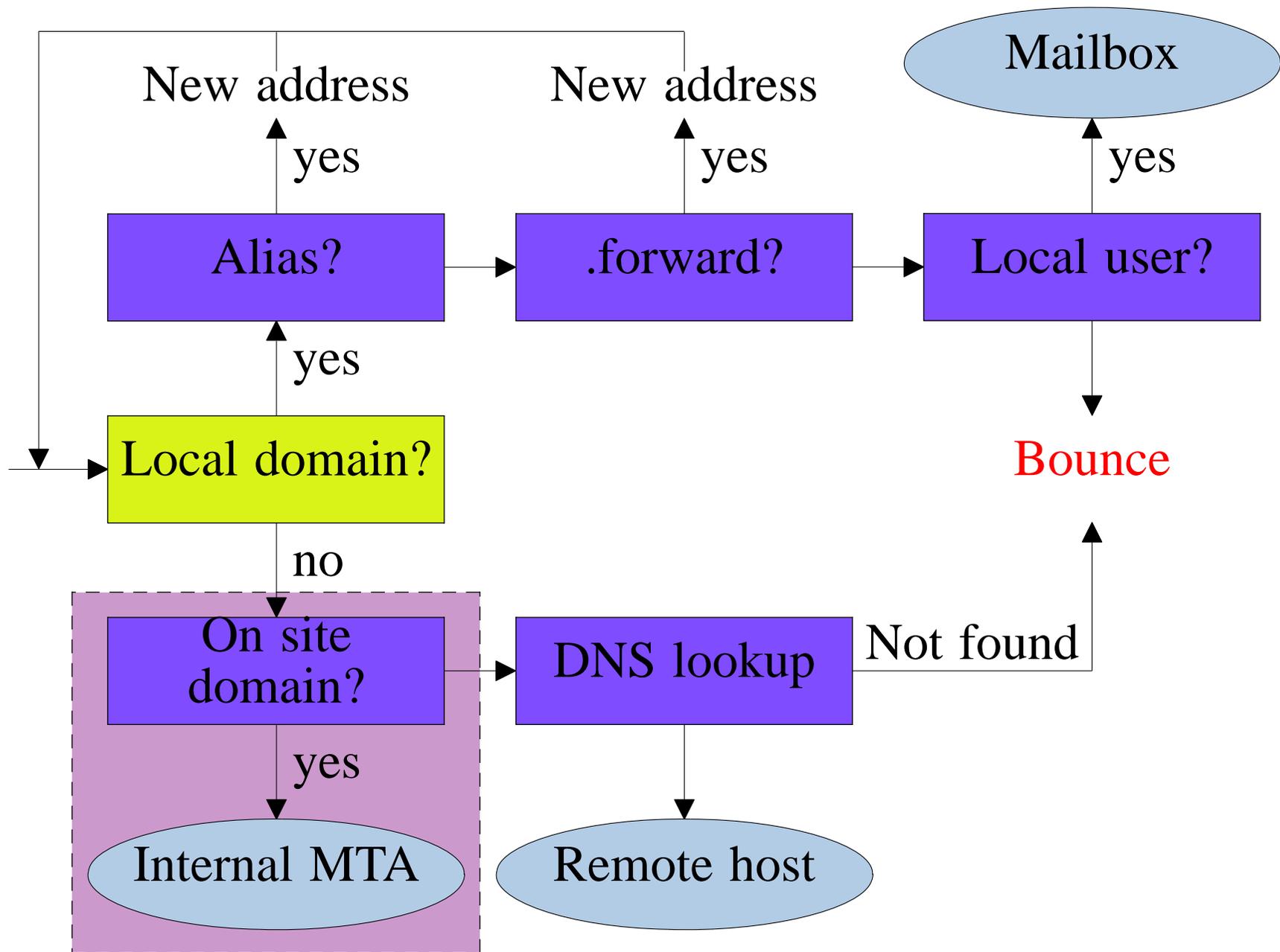
- More flexibility in message routing
- More flexibility for controlling incoming messages
- Code needs “refactoring” from time to time
- Removal of obsolete features
- Merge overlapping options
- Rename mis-named features

Exim 3 routing

- Designed for “simple” installations
- Mail domains are either
 - Local*: for delivery into local mailbox
 - Remote*: for delivery to another host
- Back in 1995 these were the common requirements
- Exim 3 makes local/remote choice at start of routing





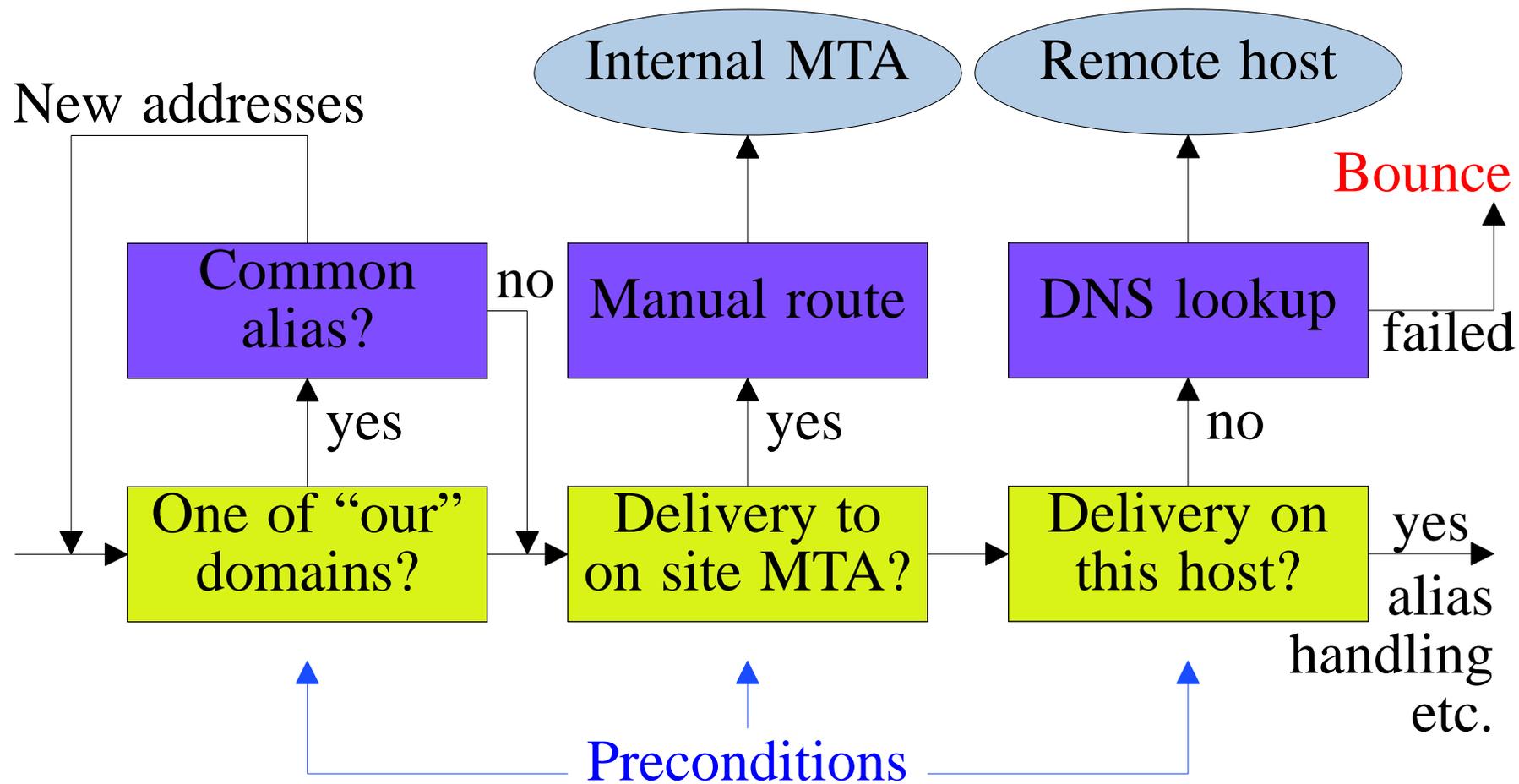


More complicated requirements

- Mixed /local/remote/virtual domains
- Special cases
 - e.g. Common aliases for a set of domains
 - e.g. Pass all messages to a virus checker first

Exim 4 routing

- Just one set of routers for all domains
- No built-in concept of *local domains* any more
- All domains are equal
- Each router runs only if *preconditions* are met
- Sysadmin configures the preconditions and the routers



Back in 1995

- The Internet was on the whole a friendly place
- Most hosts running MTAs were “open relays”
- SPAM was almost unknown
- The very first version of Exim was open
- But not for long...

Exim 3 input controls

- Relay control was added first
 - Incoming relays to specific domains
 - Outgoing relays from specific hosts (e.g. local LAN)
- Host control – blocking by sender email address
- RBL – Realtime Blackhole List (and DUL, RSS, ...)
- Authentication – the SMTP AUTH command
- TLS – Encrypted SMTP transfers

Users wanted more flexibility

- **Q:** Can authentication override a DUL listing?
- **A:** Not in Exim 3
- Testing order is fixed and the DUL test comes first
- Interactions between tests are complicated and hard to describe
- An entirely new approach to input control was needed

Exim 4 input controls

- Separate input control options are replaced by
- *Access Control Lists (ACLs)*
- An ACL is a sequence of *accept/deny* statements
- Sysadmin now controls the order of testing
- ACLs are mainly used in SMTP dialogue for RCPT and DATA when receiving a message
- Can also used for HELO/EHLO, MAIL, AUTH, ETRN, EXPN, STARTTLS, VRFY
- An ACL is available for non-SMTP messages

Exim 4 named lists

- Easier and more efficient management of lists

- Domain lists

```
domainlist local_domains = a.b.c : x.y.z  
domainlist relay_domains = !a.p.q : *.p.q
```

- Host lists

```
hostlist relay_hosts = 192.168.34.0/24
```

- Also named address lists and local part lists
- Better semantics than macro substitution

Simple ACL for RCPT

```
accept local_parts = postmaster  
domains = +local_domains
```

```
require verify = sender
```

```
accept domains = +local_domains  
endpass  
message = Unknown user  
verify = recipient
```

```
accept domains = +relay_domains
```

```
accept hosts = +relay_hosts
```

Other ACL conditions

- Specific senders
- SMTP authentication
- SMTP encryption and whether certificate checked
- DNS black lists (RBL, DUL, etc.)
- Verification can include *callback*
- ACLs can be nested
- ACLs can be read from files whose names are dynamic

Other changes in Exim 4

- Daemon can listen on multiple ports
- *local_scan()* function (in C) for additional policy checks
Runs just before message is accepted
- SMTP rate limiting (MAIL and RCPT commands)
- Security options simplified – Exim 4 uses only *setuid()*
- Log and debug levels replaced by selector names
- “Include” facility in configuration file
- ... and many more ...

