Active Directory and Transport Server

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Premier Field Engineering

Source : TechNet Documentation

Premier Field Engineering - What do we do

Proactive Services
- Workshops
- Health Checks
- Risk Assessments
- Supportability Reviews
- Chalk & Talks
- Knowledge Transfers

Reactive Support

Troubleshooting & RCA

Partner with PG

Technical Leadership

Global Community

Onsite and Remote

Active Directory

- Domain Controller
- Read-Only Domain Controller
- Global Catalog
- 32-Bit or 64-bit Domain Controllers
- Partitions – Schema, Configuration, Domain
- Active Directory Sites

Exchange - Access to Active Directory

- Exchange Setup
  - Prepare Active Directory and Domains
- Exchange Information Stored in AD
  - Schema Partition
  - Configuration Partition
  - Domain Partition
- Active Directory Sites

Active Directory Driver

- Core component of Exchange
- Allows Exchange services to create, modify, delete, and query AD Data
- Microsoft Exchange Active Directory Topology Service
- Topology Discovery

Event ID 2080 from MSExchangeDSAccess

Event Type: Information

Event Source: MSExchangeDSAccess

Event Category: Topology

Event ID: 2080

Computer: MyComputer

Description:

Process MAD.EXE (PID=1808). DSAccess has discovered the following servers with the following characteristics:

 (Server name | Roles | Reachability | Synchronized | GC capable | PDC | SACL right | Critical Data | Netlogon | OS Version)

In-site:

domaincontroller1.company.com CDG 7 7 1 0 0 1 7 1

domaincontroller2.company.com CDG 7 7 1 0 1 1 7 1

domaincontroller3.company.com CDG 7 7 1 0 1 1 7 1

 Out-of-site:

For more information, KB 316300

Roles

- CAS
  - Authentication, Discovery
- Hub Transport
  - Message categorization
  - Routing
- Mailbox
  - Configuration and Settings
- UM
  - Dial plans, IP gateways, and hunt groups
- Edge Transport
  - What's that ?

AD Sites

- Hub Transport server must be able to communicate directly with a global catalog server
- Mailbox servers should be located in the same site as a Hub Transport server.
- A Client Access server must be deployed in each site that contains Mailbox servers
- Single Site or Multiple Sites

Transport Architecture
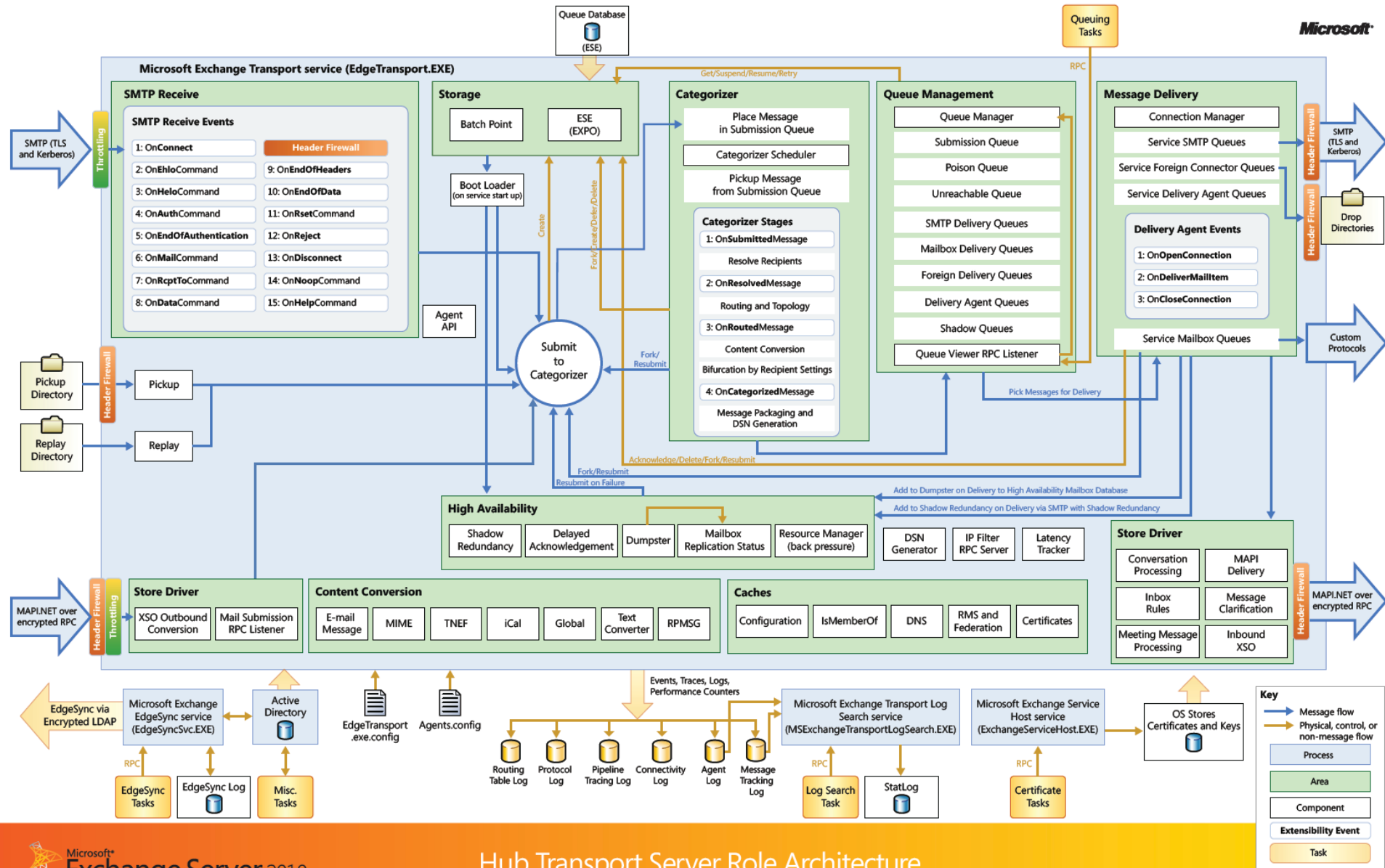
Hub Transport Server Role Architecture

Transport Server

Roles

- Hub Transport
  - Internal Mail Flow
  - Policy and Compliance
  - Anti-Spam and Antivirus
- Edge Transport
  - Internet Mail Flow
  - Anti-Spam and Antivirus
  - Edge Transport Rules
  - Address Re-writing

Transport Servers

Connectors

- Receive Connectors
  - Listener to Receive Messages
  - Single Server Sourced
  - Default Connectors
    - Client
    - Default
  - Usage
    - Internet
    - Internal
    - Client
    - Anonymous

Transport Servers

Connectors

- Send Connectors
  - Logical Gateway to send messages
  - Controls Outbound Connections
  - Deliver to Next Hop
  - Global Scope
  - Usage
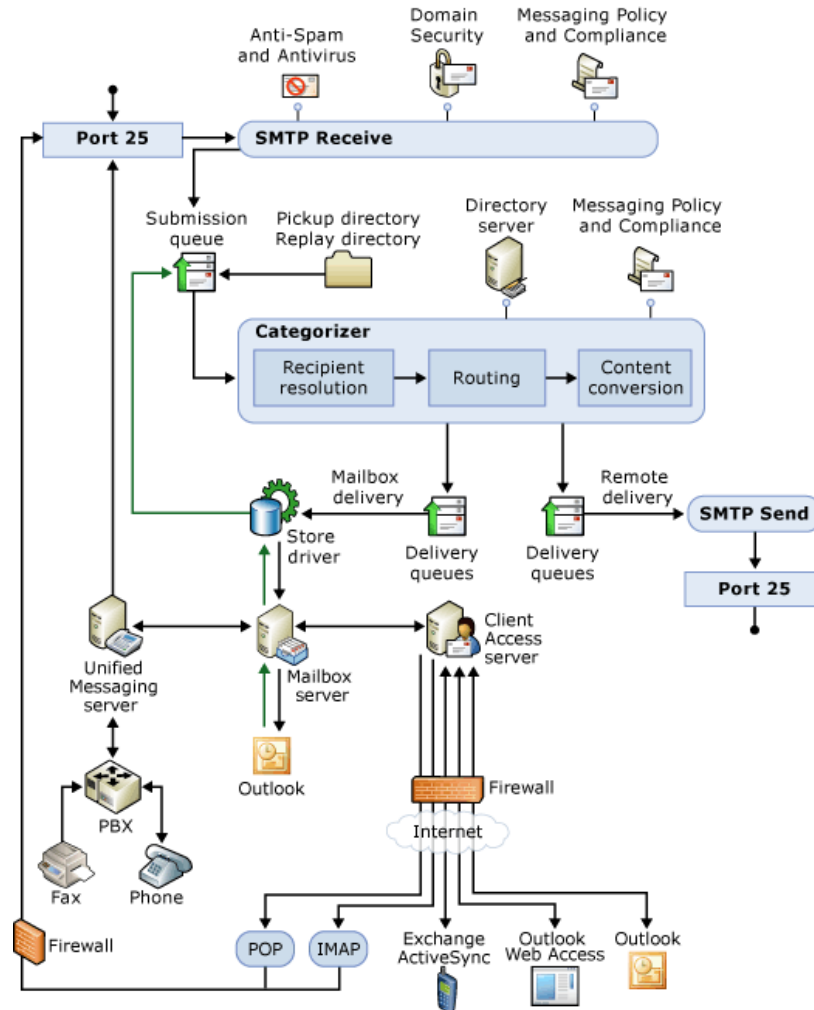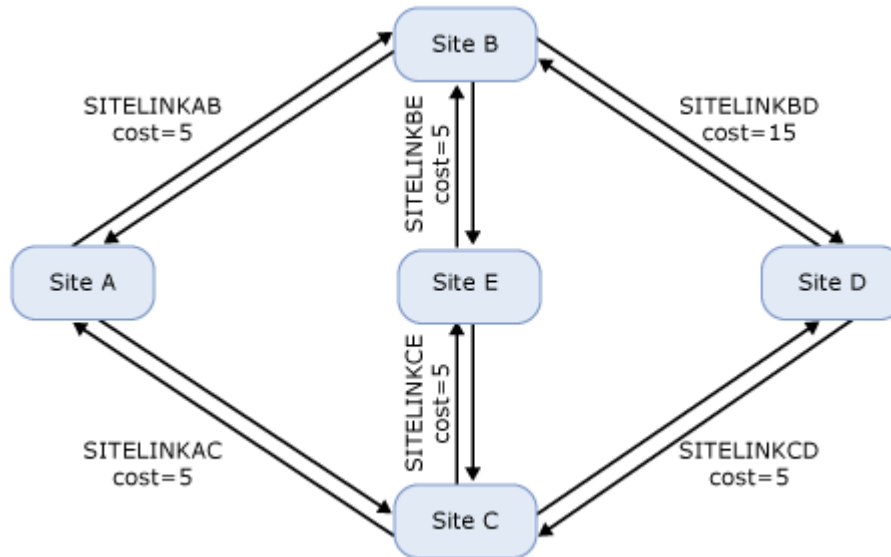   - Internal
    - Internet
    - Partner
    - Custom
  - Address Space

Transport Servers

Connectors

- Foreign Connectors
  - Send to Third Party Gateways
  - Uses Drop Directory
  - Configuration is stored in AD
  - Address Space defines routing
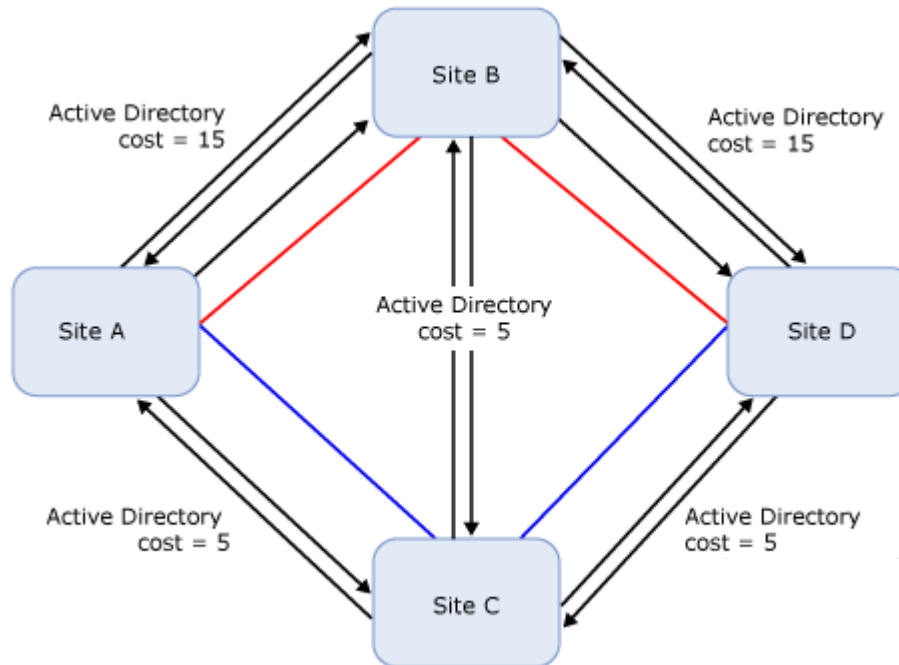 - Uses Delivery Agent

Transport Pipeline

Architecture

AD Sites

Site B

SITELINKAB
cost=5

SITELINKBD
cost=15

SITELINKBE
cost=5

Site A

Site E

Site D

SITELINKCE
cost=5

SITELINKAC
cost=5

SITELINKCD
cost=5

Site C

- Site A to Site D
- Site B to Site D
- Site A to Site E

AD Sites – Exchange Cost

Message Routing

Delivery

- Queue at point of failure

First back-off location

Site B — Site C

Site A — Direct relay — Site D

- Delayed fan out

Site A — To: User@SITEC User@SITED User@SITEE

To: User@SITEC User@SITEE — Site B — To: User@SITED
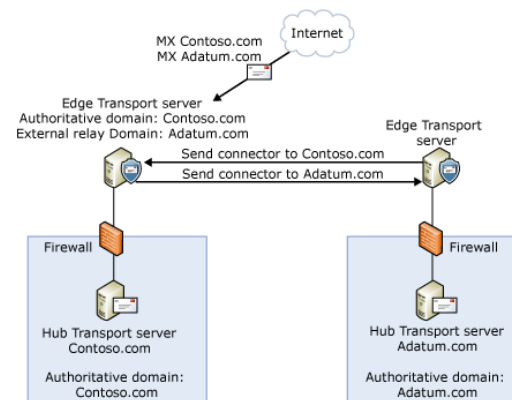
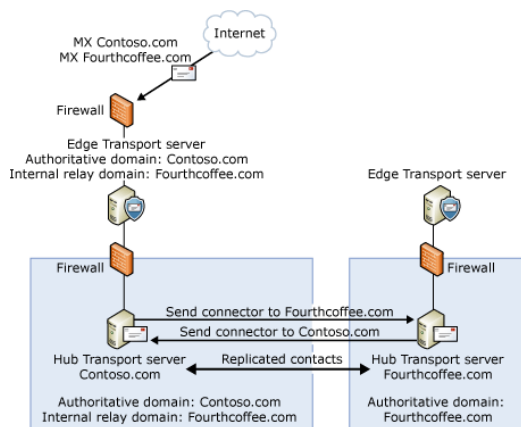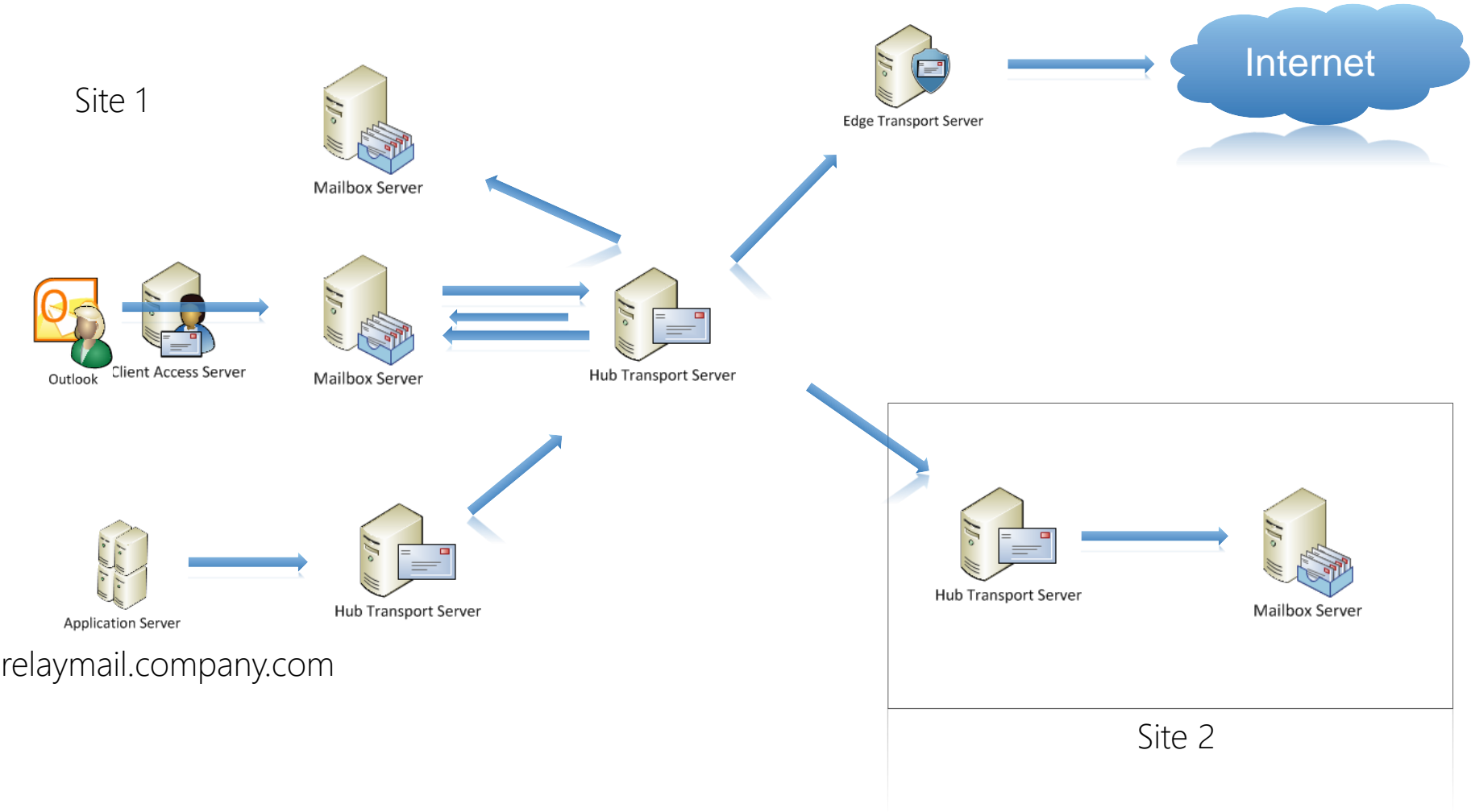Site C — To: User@SITEE

Site D

Site E
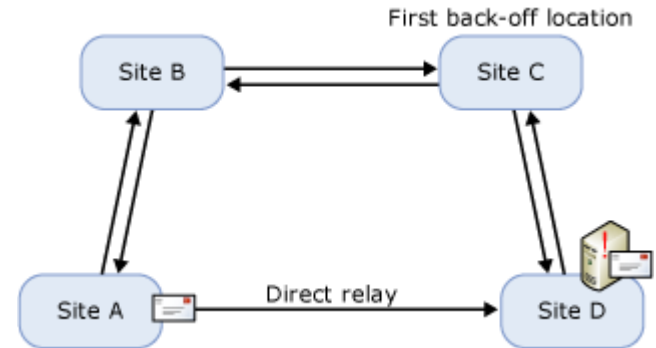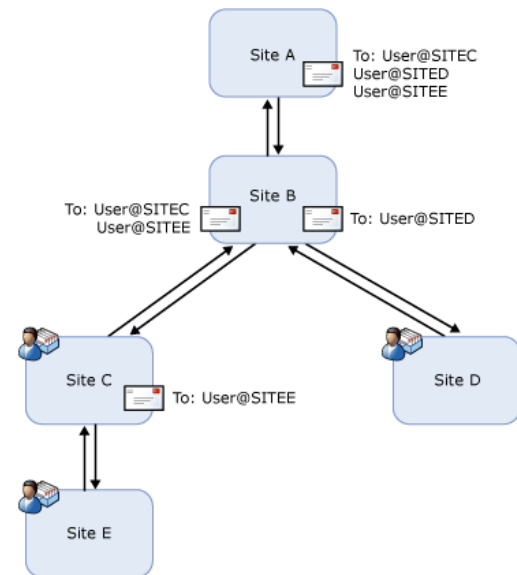
Hub Sites
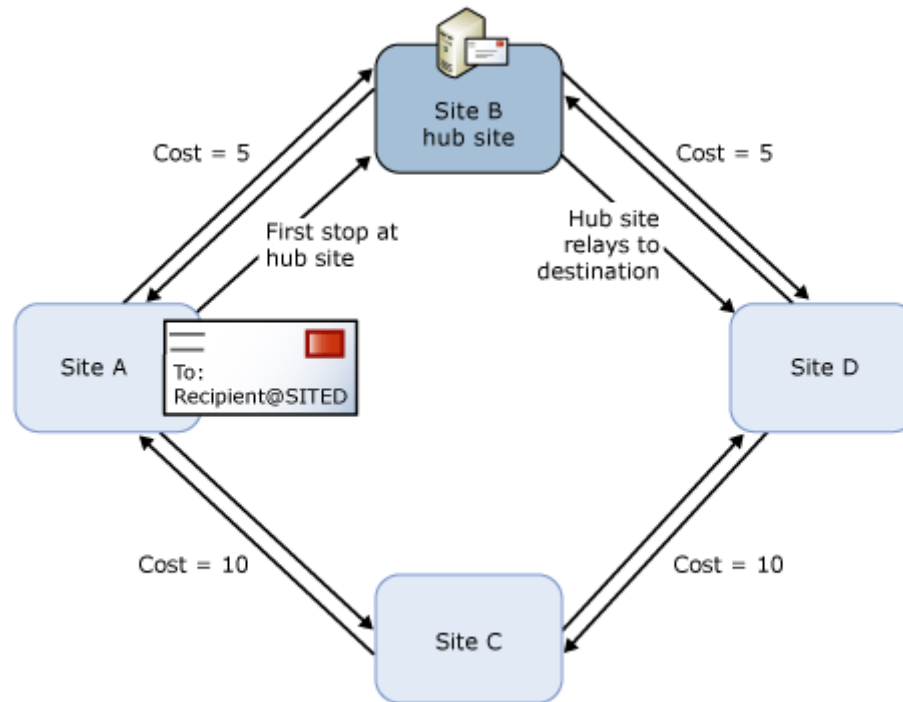
Understanding Transport

Accepted Domains

- Every Domain that Transport should relay or deliver
- Authoritative Domains
- Relay Domains
  - Internal Relay
  - External Replay
- Defines Email Address Policies

Mail Routing and Delivery Reports

Understanding Transport

Queues

- Temporary holding location for messages that are waiting to enter the next stage of processing
- Uses an Extensible Storage Engine (ESE) database for queue storage
- Types
  - Submission queue
  - Mailbox delivery queue
    - One queue for every unique destination Mailbox server
  - Remote delivery queue
    - One queue for every unique destination SMTP domain or smart host
    - One queue for every unique remote Active Directory site
  - Poison message queue
  - Unreachable queue

Events
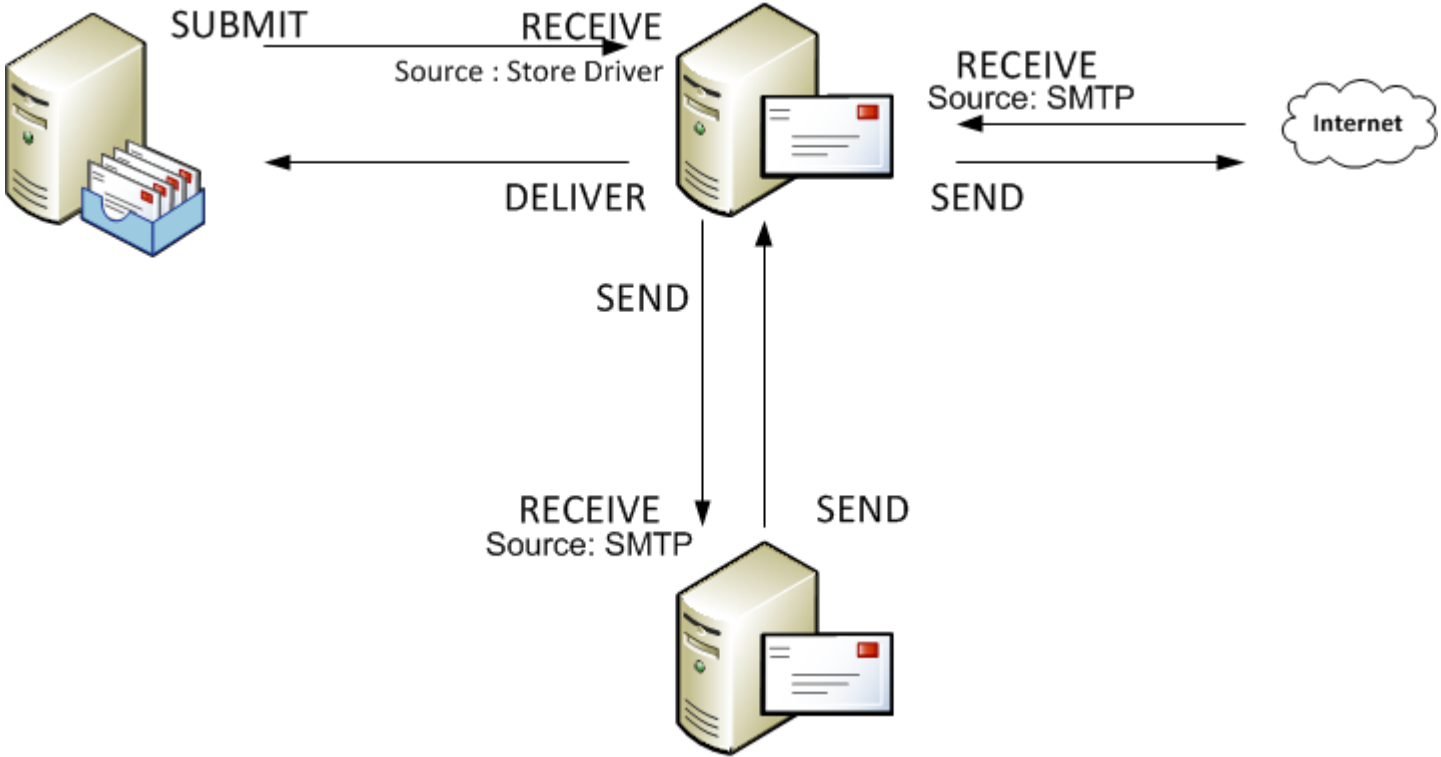
Transport Architecture
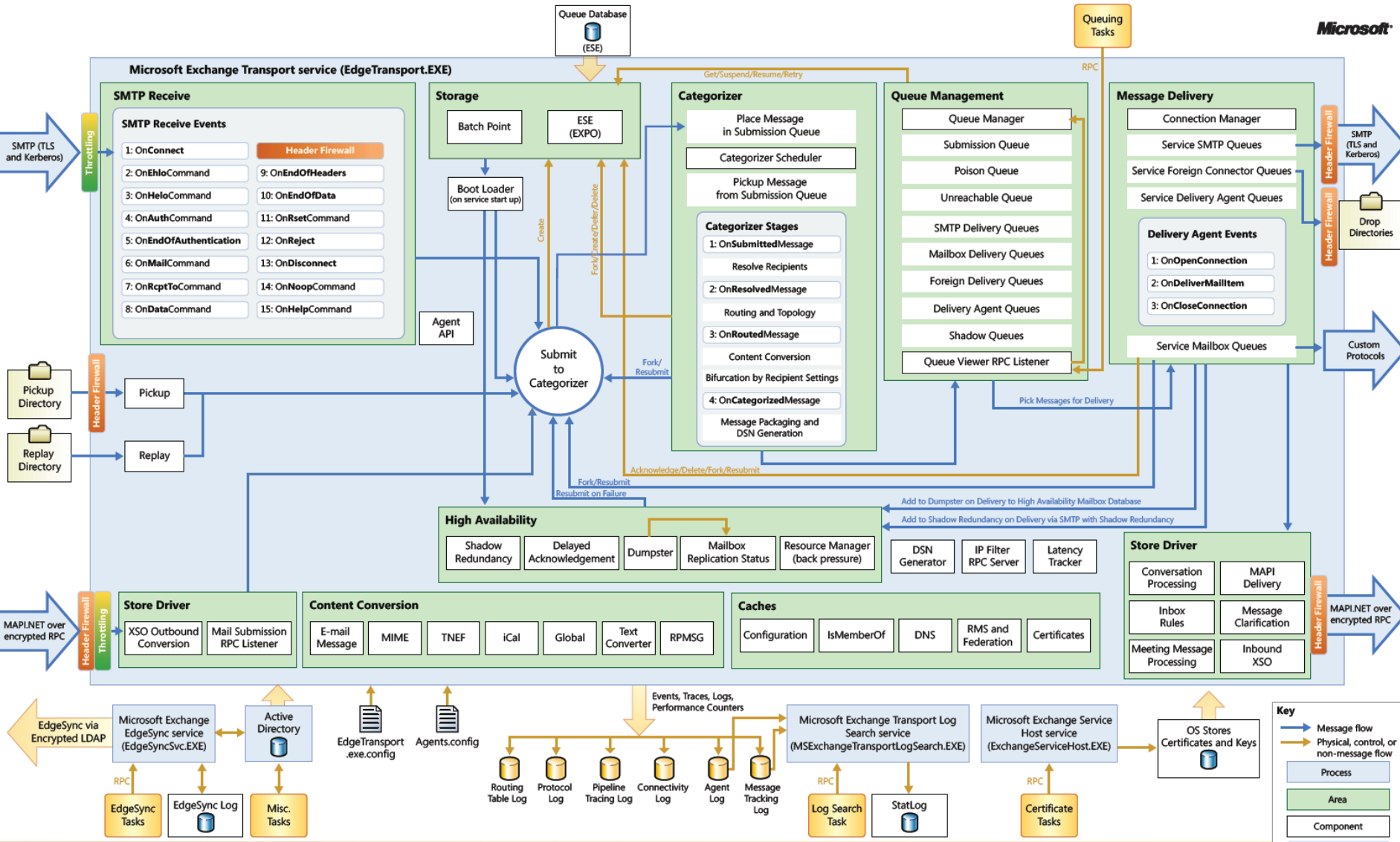
Hub Transport Server Role Architecture

Questions