

# Active Directory Fundamentals



# What Will We Cover?

- Active Directory concepts
- Domains, trees, forests
- Domain controllers, sites
- Domain Naming Service
- Replication
- Operations masters

# Helpful Experience

- Experience with the Windows user interface
- Experience supporting Microsoft networks

**Level 200**

# Agenda

- Logical Concepts of Active Directory
- Physical Concepts of Active Directory
- DNS in 10 Minutes
- Overview of Active Directory Replication
- The role played by Operations Masters



# What Is a Directory Service?

A service that helps track and locate objects on a network

Active Directory Management



# What Is a Directory Service?

A service that helps track and locate objects on a network

## Active Directory Management

Workstations



Services



Files



Users



# Active Directory Domains



# Active Directory Domains

Boundary of  
Authentication

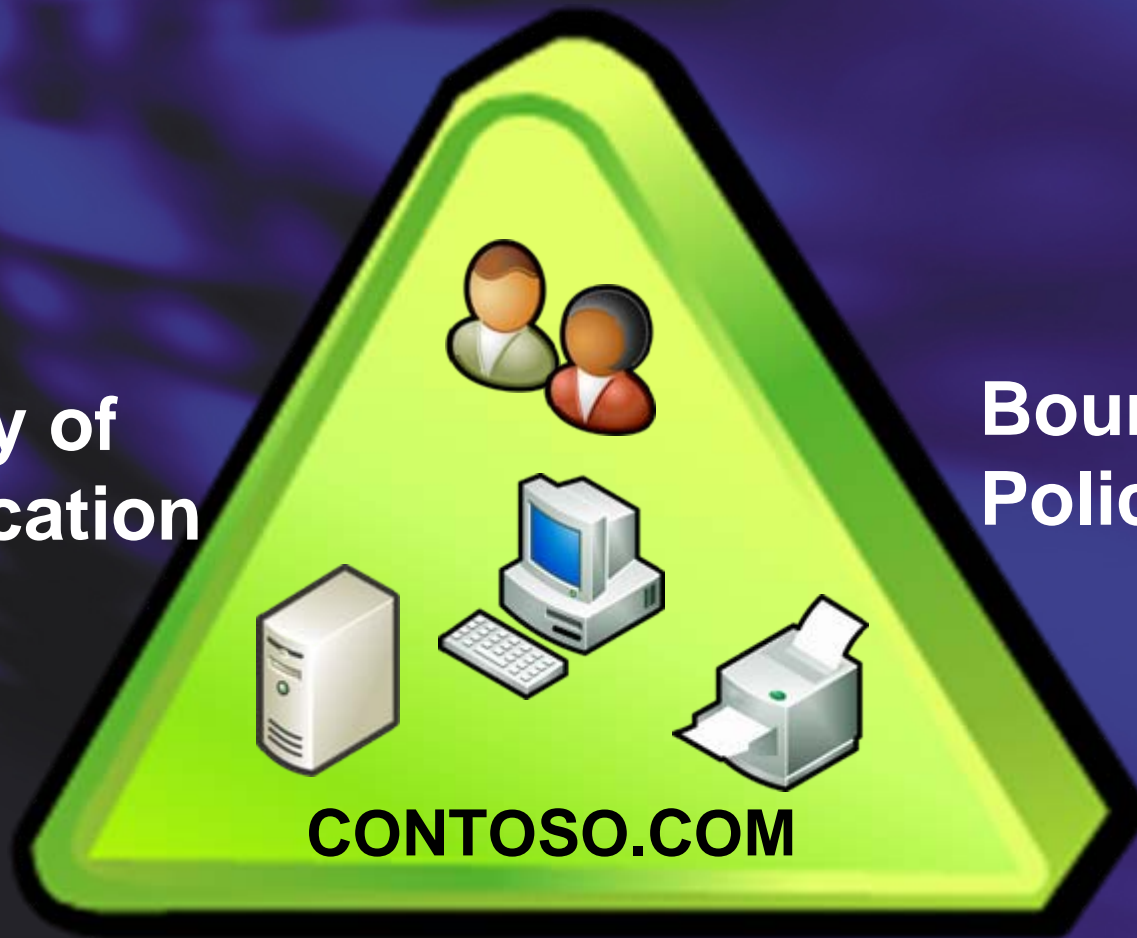




# Active Directory Domains

Boundary of  
Authentication

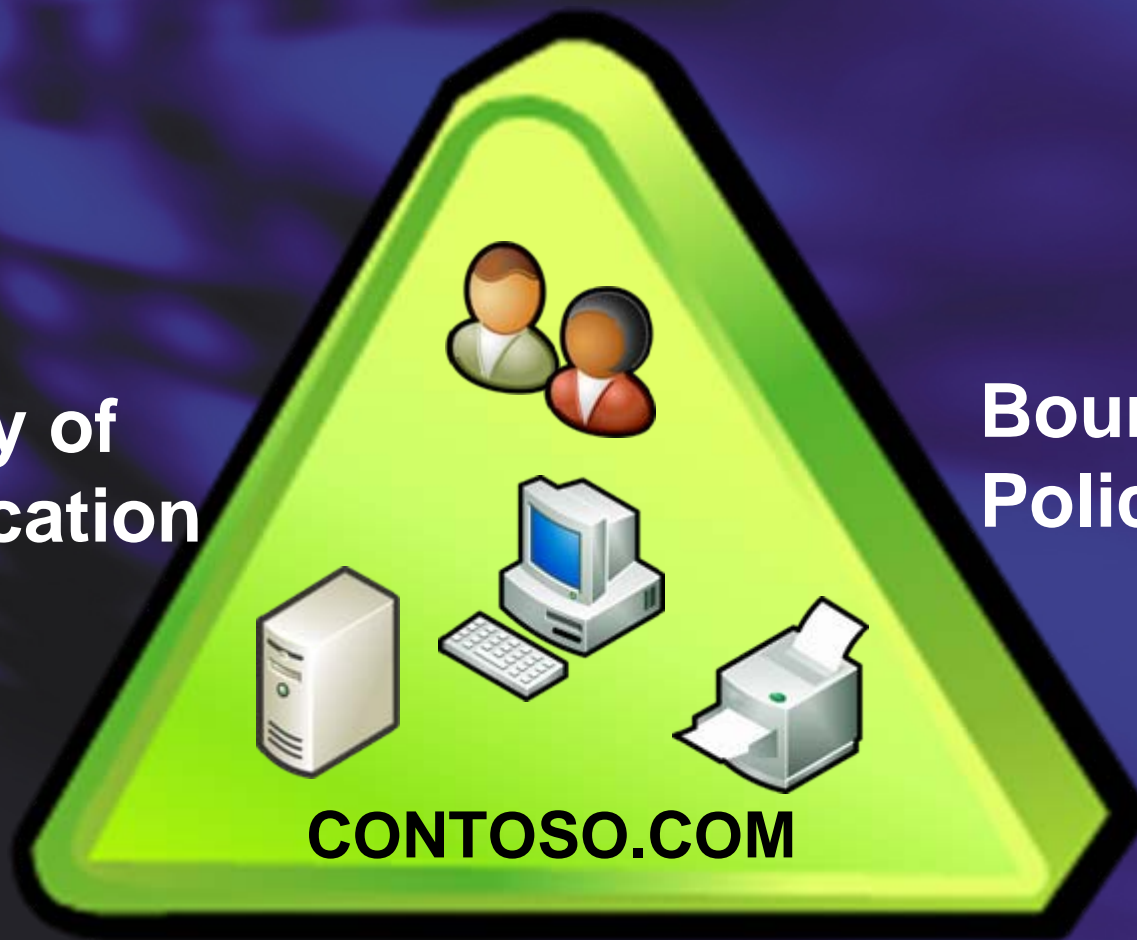
Boundary of  
Policies



# Active Directory Domains

Boundary of  
Authentication

Boundary of  
Policies



Boundary of Replication

# Active Directory Trees





# Active Directory Trees



**Shared  
Schema**



**Configuration**

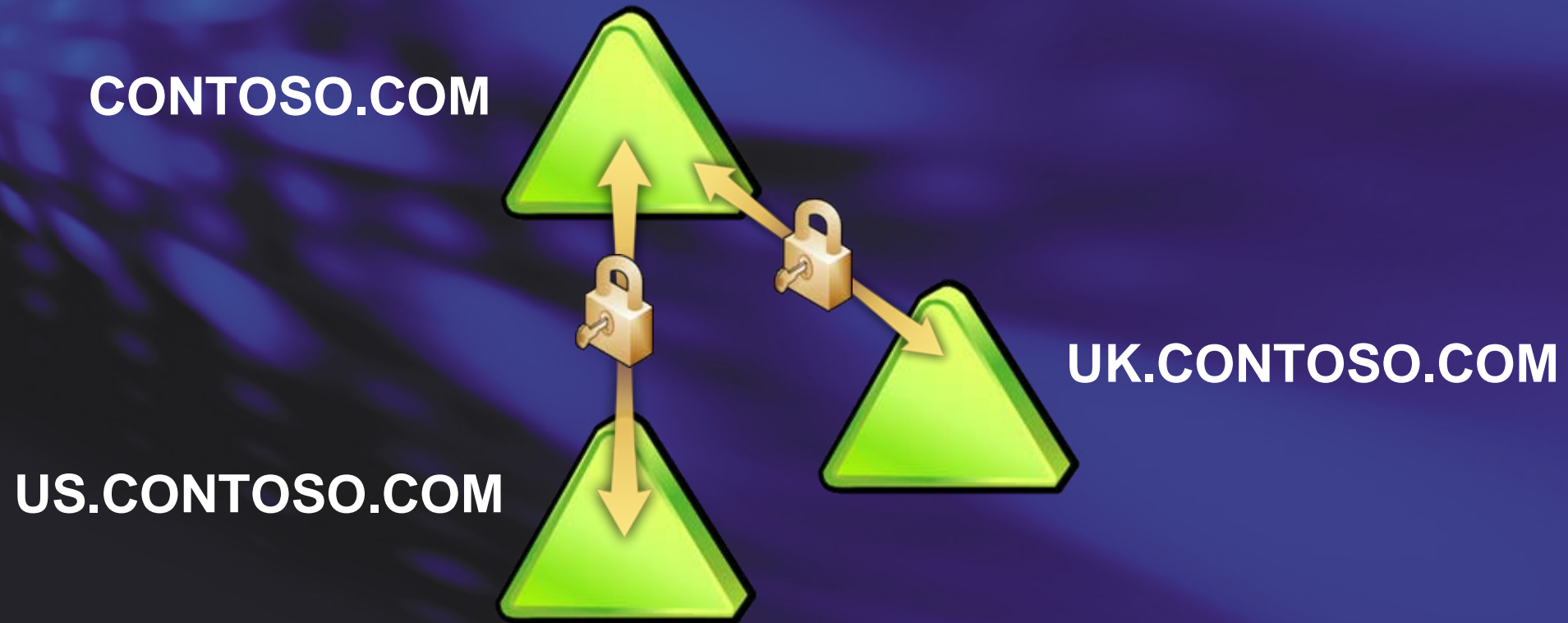


**Global Catalog**

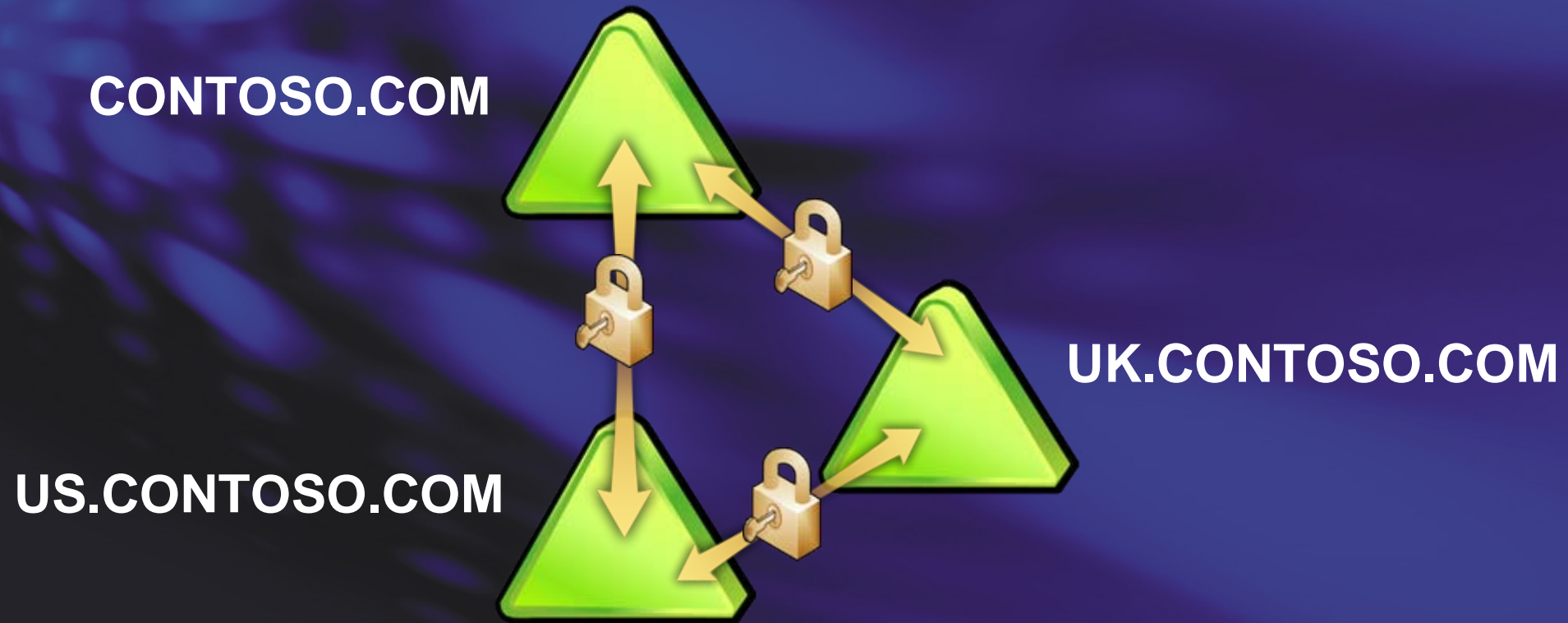




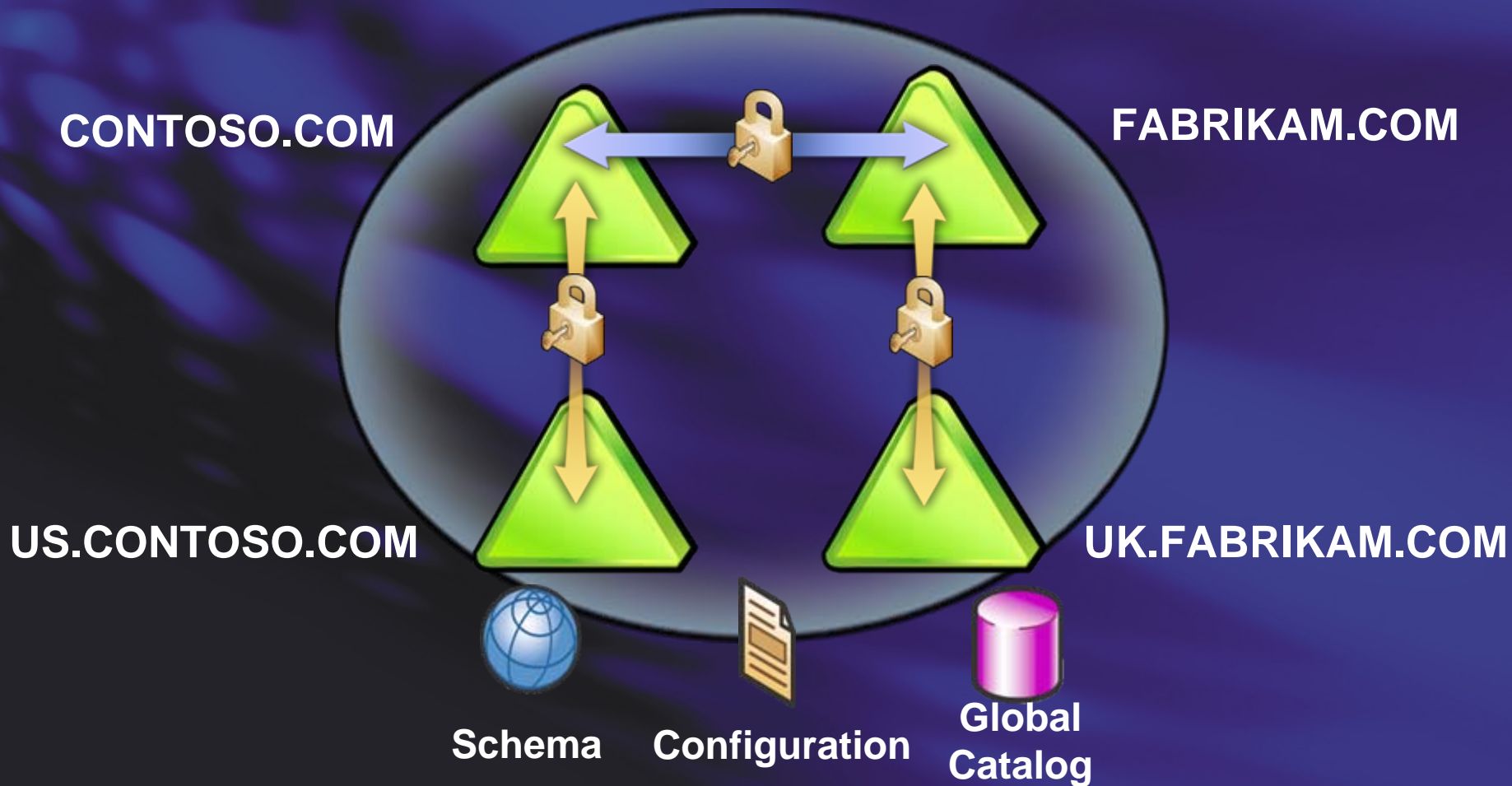
# Transitive Trusts



# Transitive Trusts



# Active Directory Forests



# *demonstration*

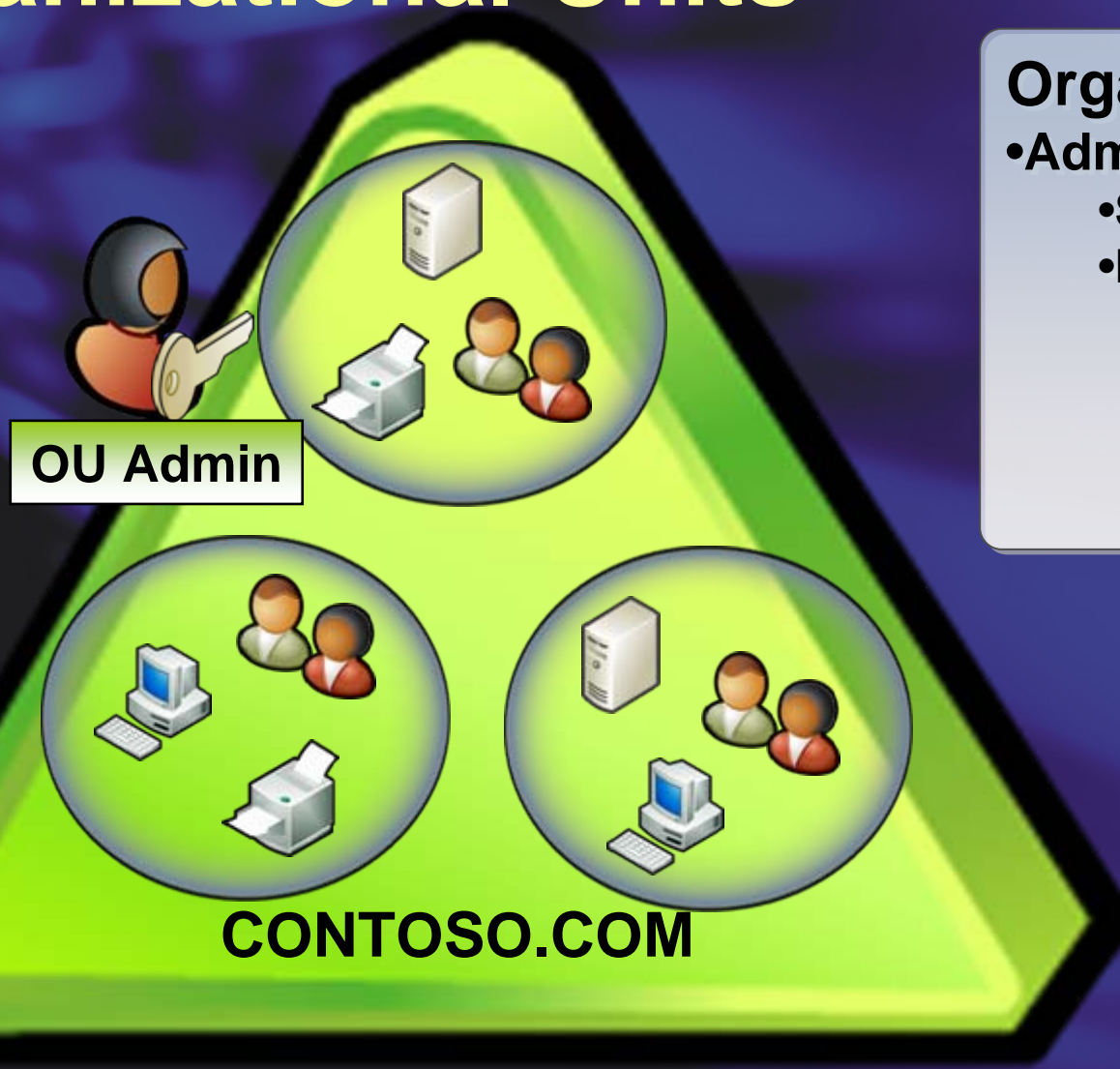
## Reviewing Domains and Trusts



# Organizational Units



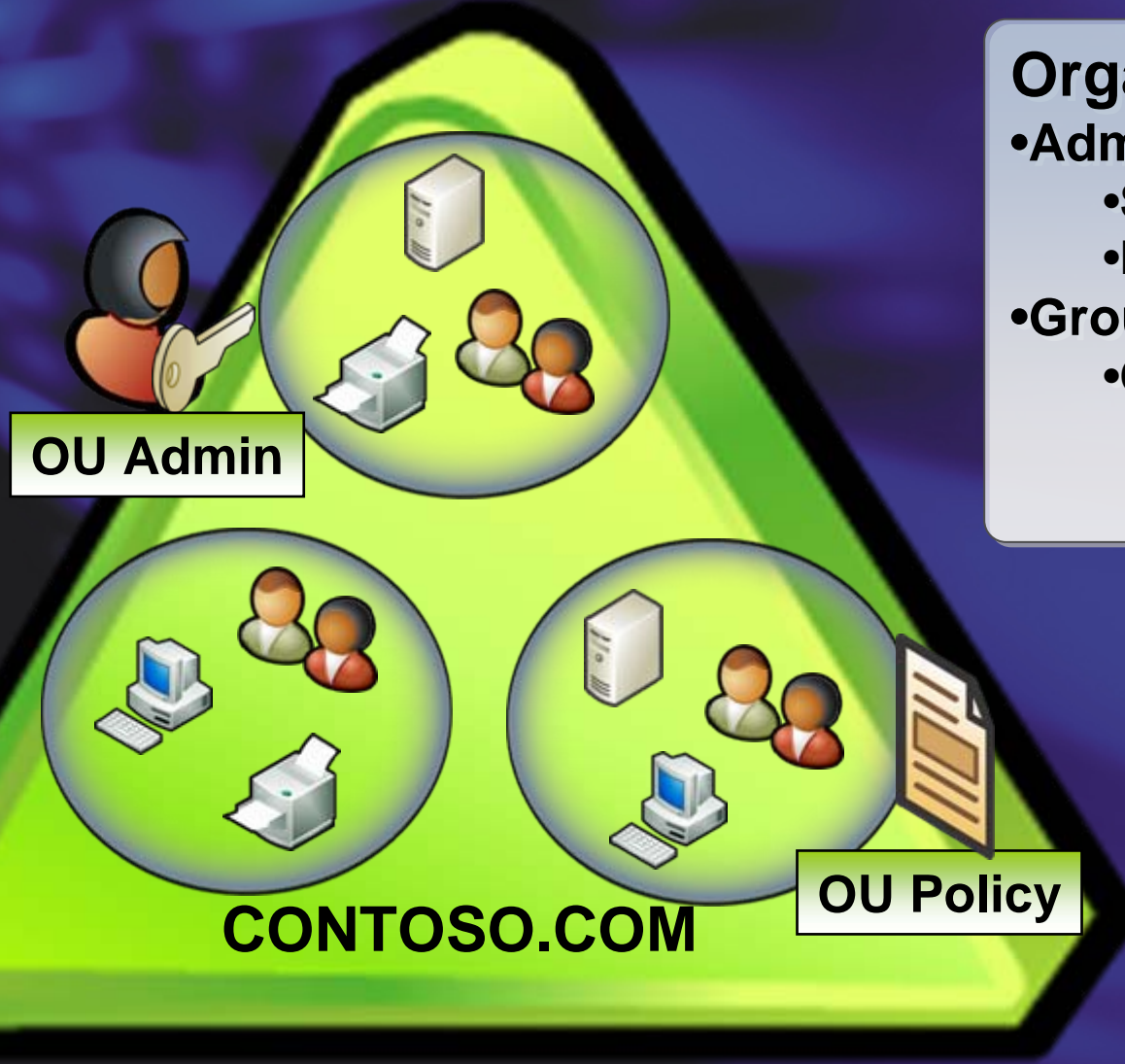
# Organizational Units



## Organized For:

- Administration
  - Same Requirements
  - Delegation

# Organizational Units



## Organized For:

- Administration
  - Same Requirements
  - Delegation
- Group Policy
  - Configuration



# Organizational Units



## Organized For:

- Administration
  - Same Requirements
  - Delegation
- Group Policy
  - Configuration
  - Security



# Organizational Unit Applications



**Sales Department**



**Marketing Department**

# Organizational Unit Applications



London



New York

# Organizational Unit Applications



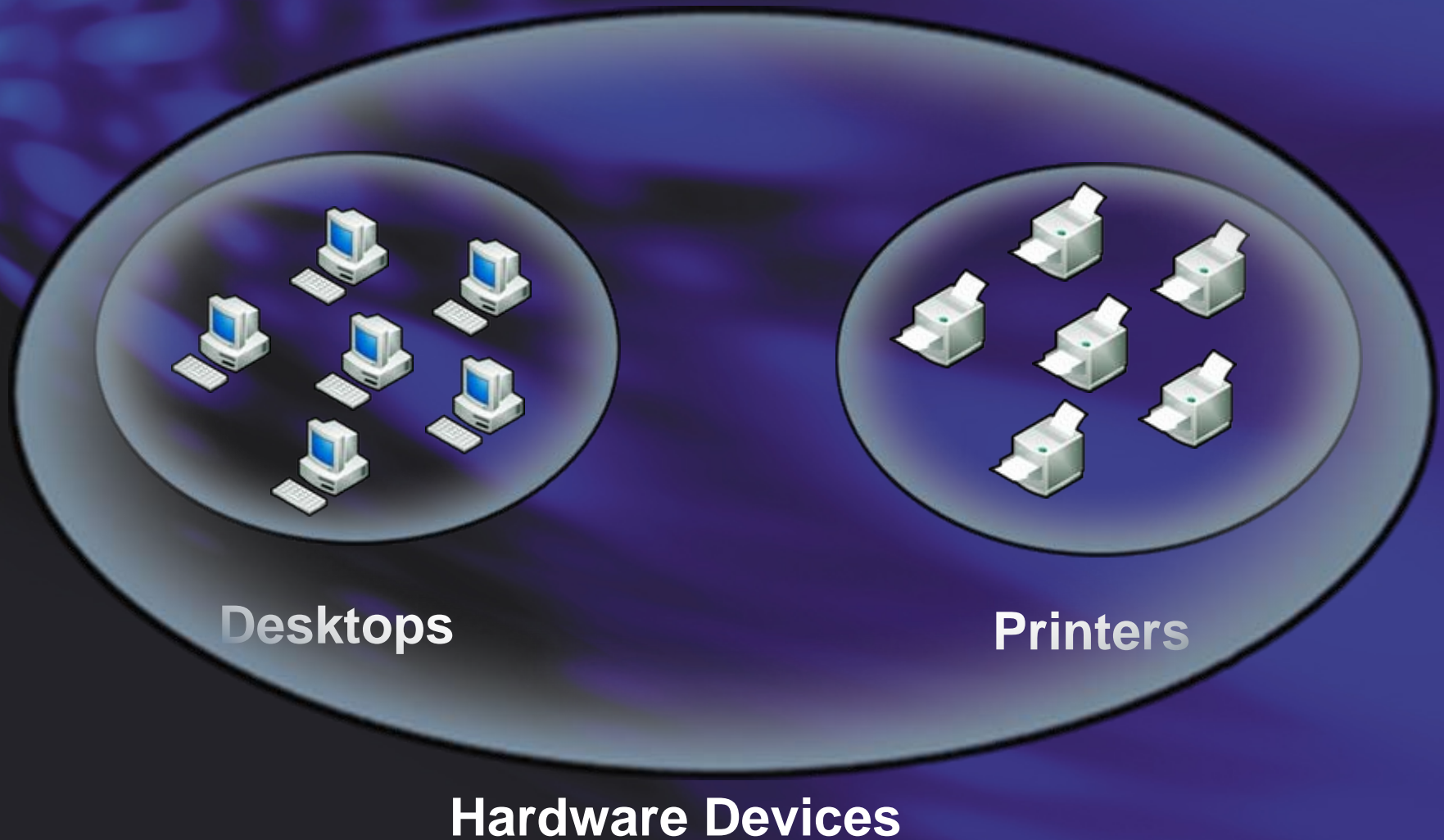
**Desktops**



**Printers**



# Organizational Unit Applications





# ***demonstration***

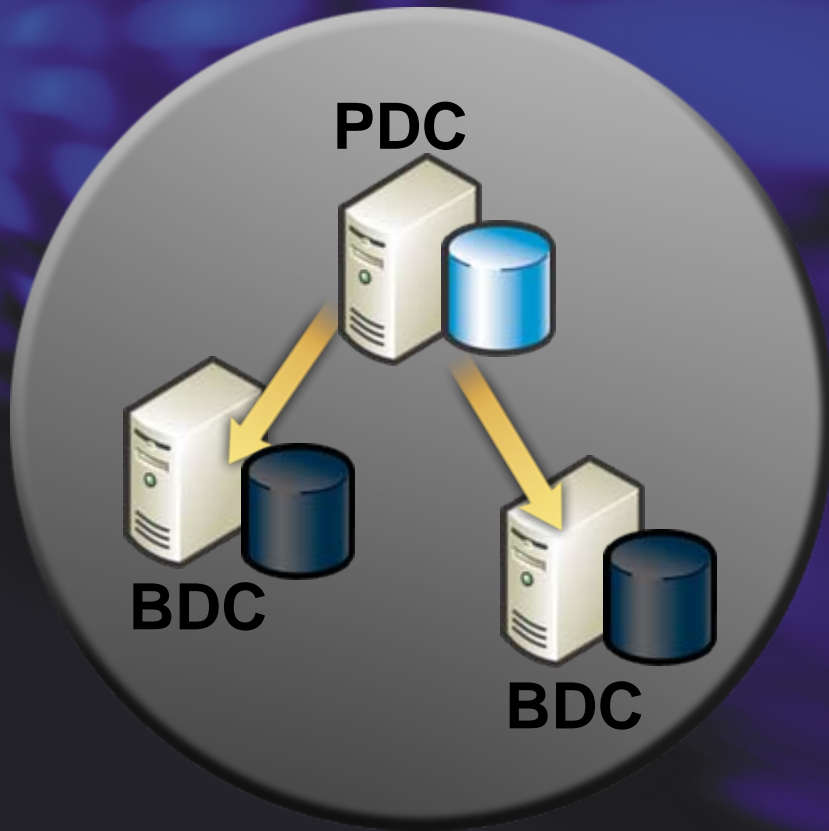
## **Using Organizational Units**

- **Review Organizational Units**
- **Create New Organizational Units**

# Agenda

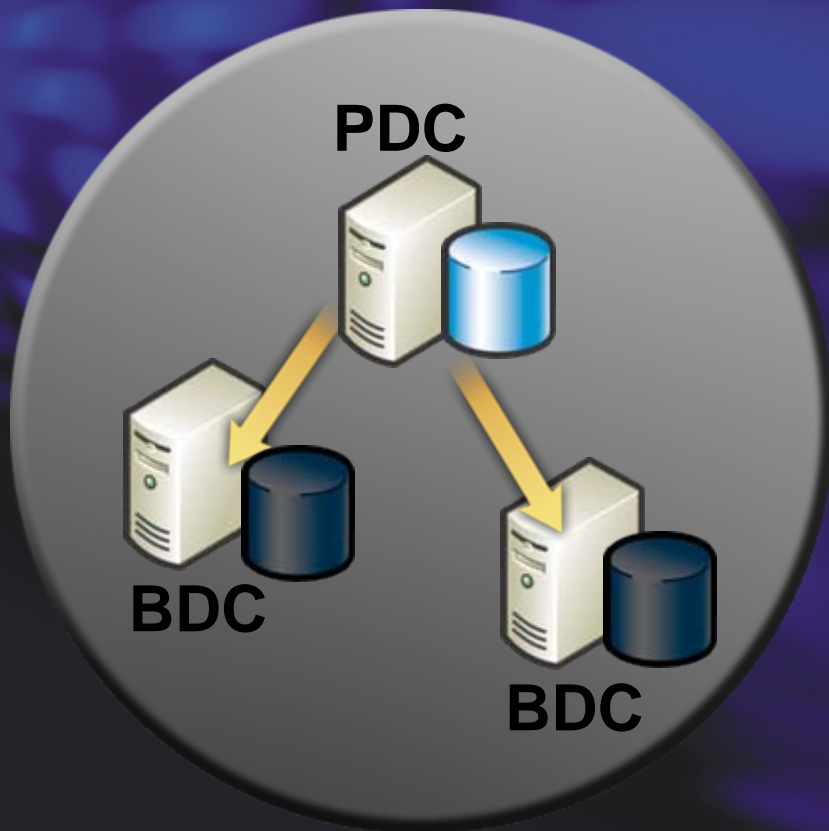
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# Domain Controllers

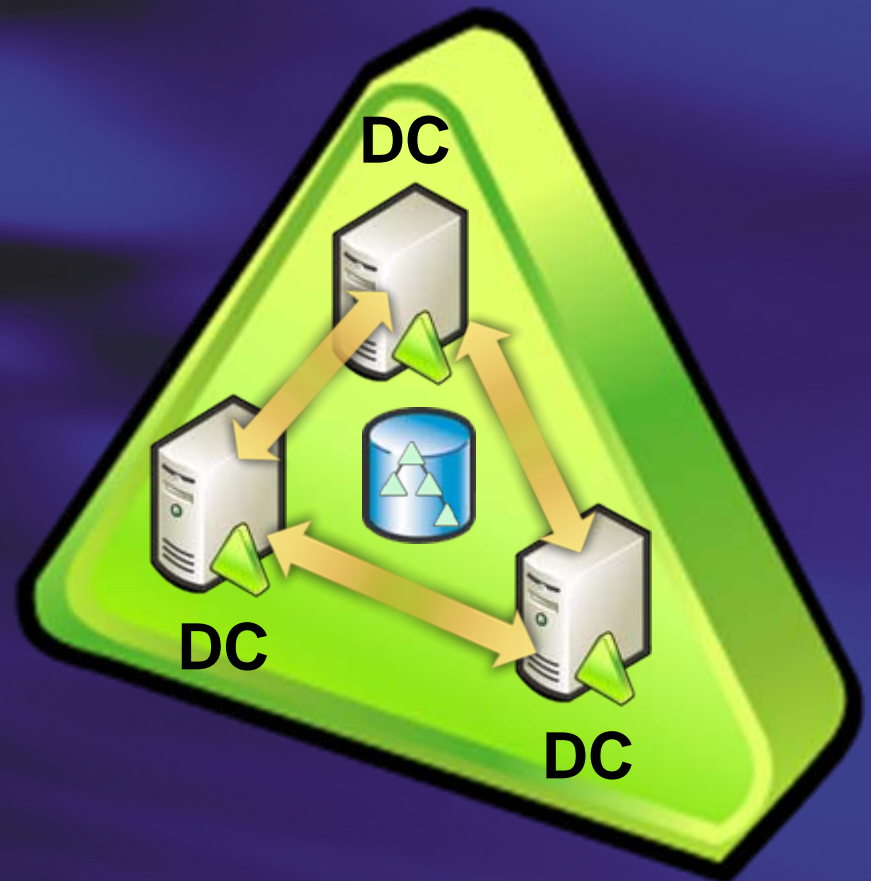


**Windows NT 4.0**

# Domain Controllers



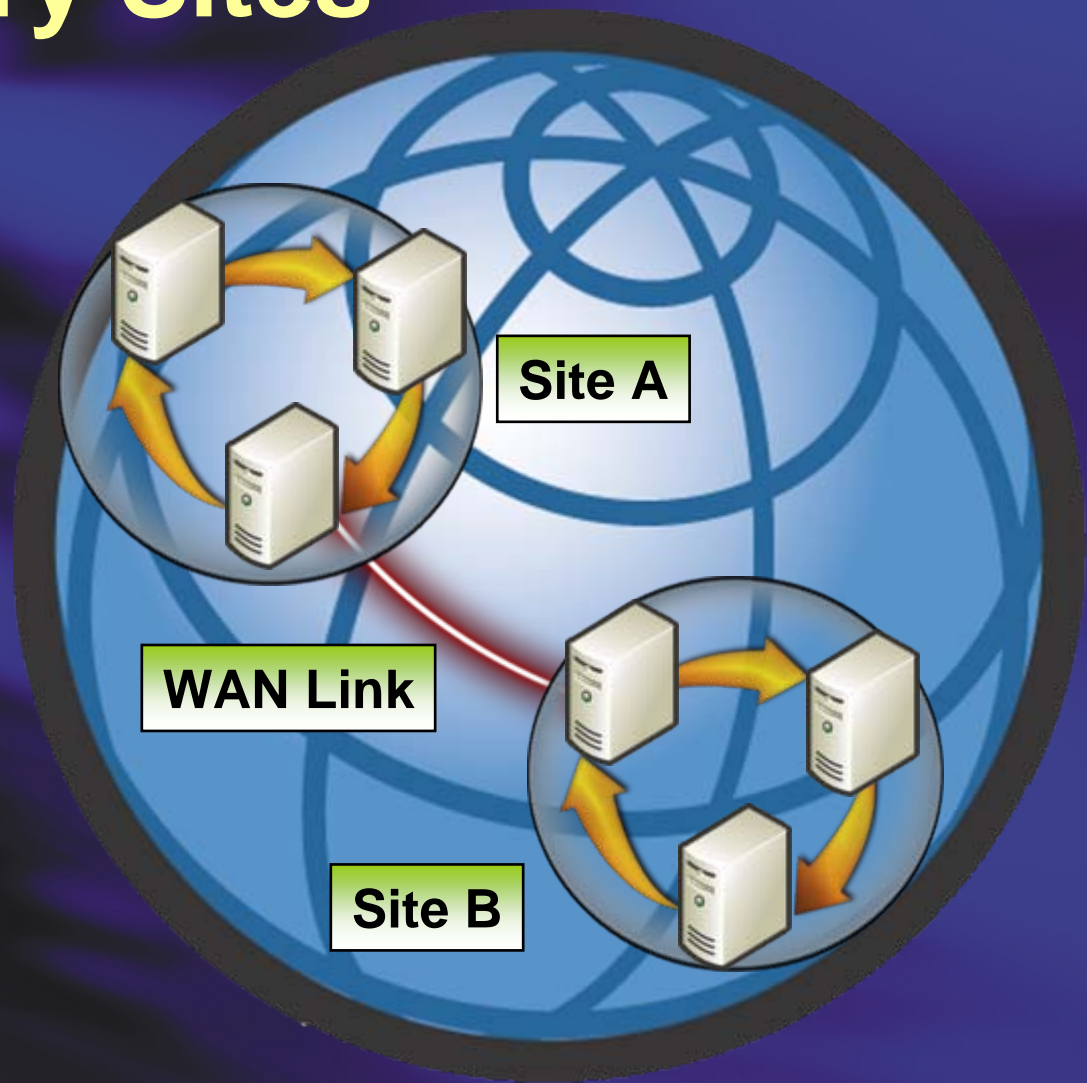
**Windows NT 4.0**



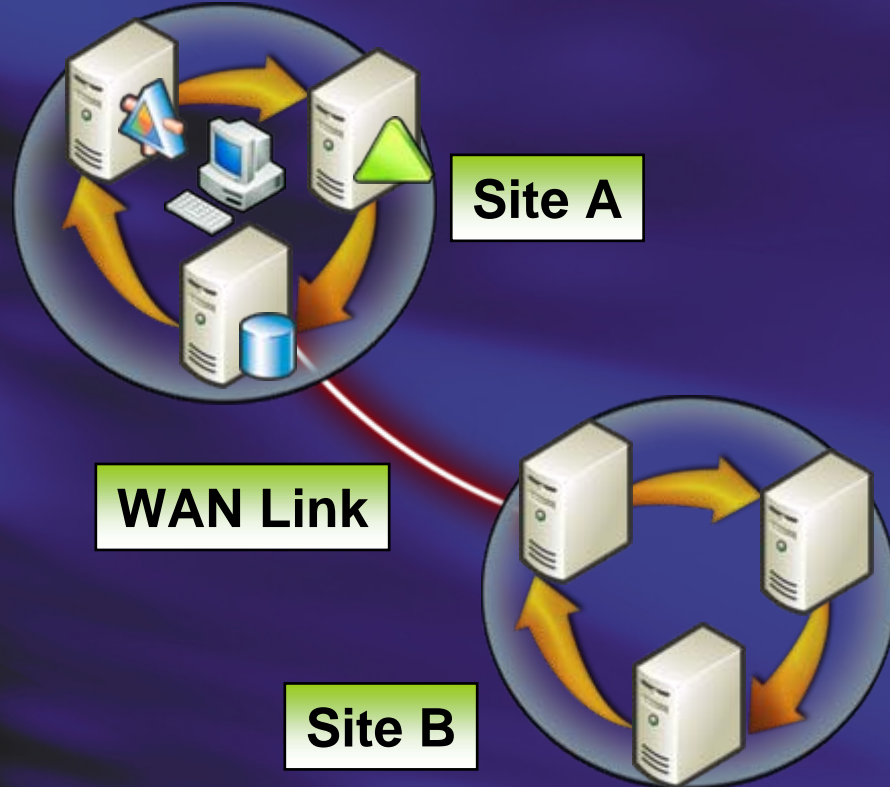
**Windows Server 2003**



# Active Directory Sites



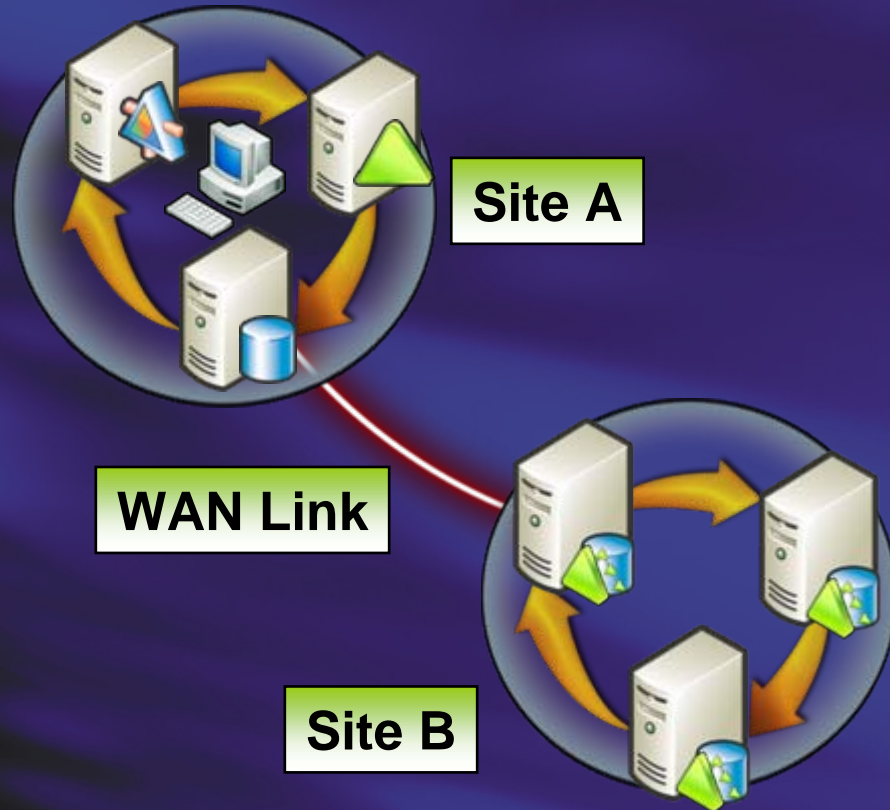
# Active Directory Sites



## Sites Used To:

- Locate Services

# Active Directory Sites

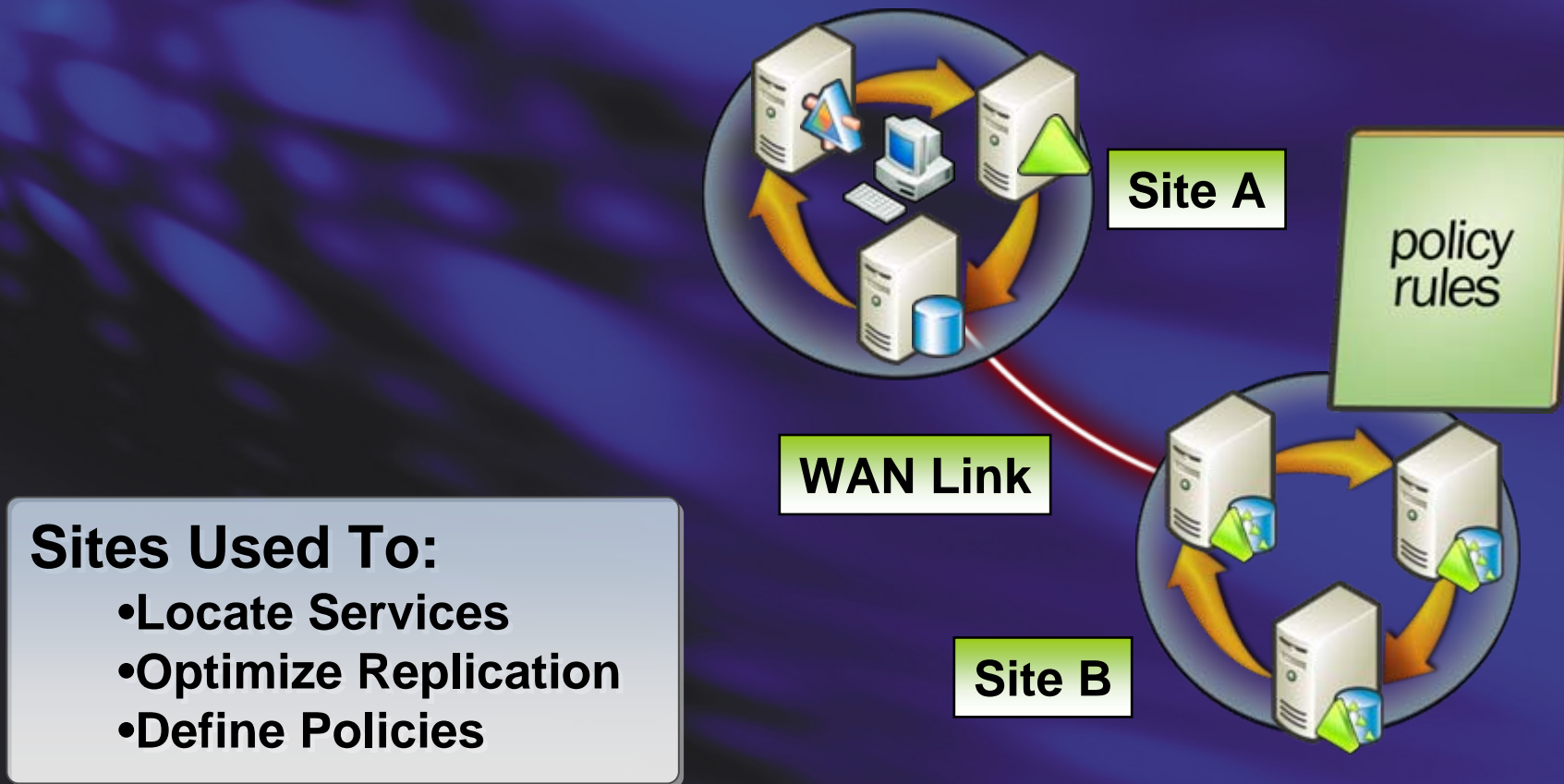


## Sites Used To:

- Locate Services
- Optimize Replication

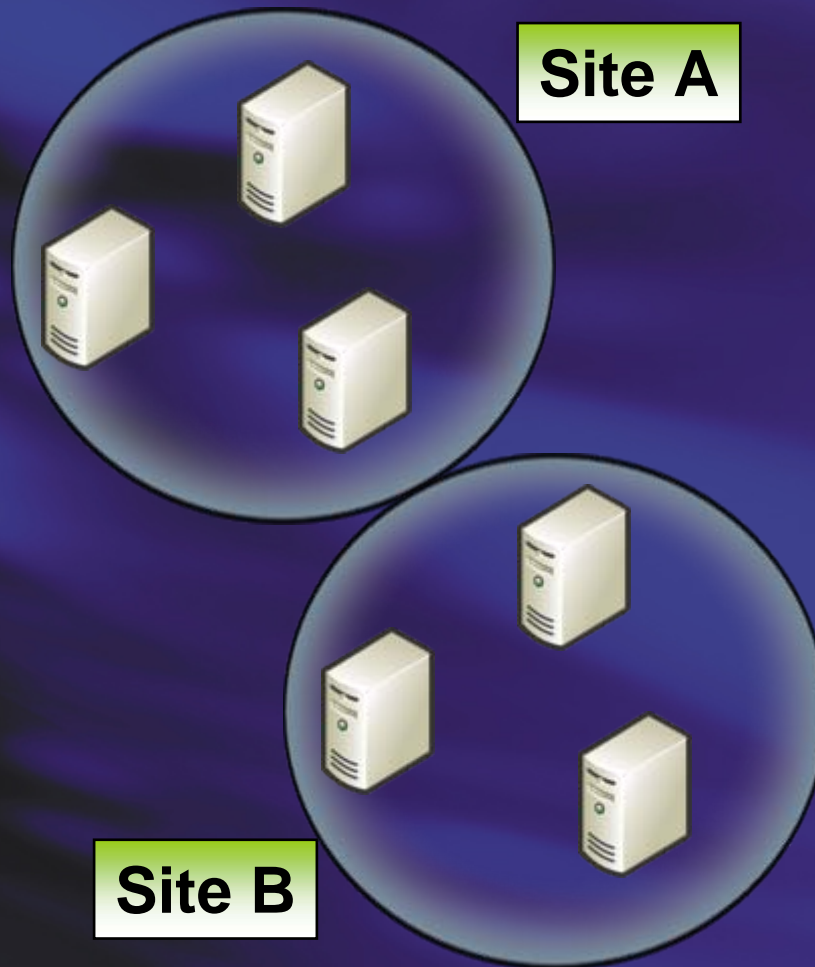


# Active Directory Sites





# Sites and Domains



# Sites and Domains

**US.CONTOSO.COM**

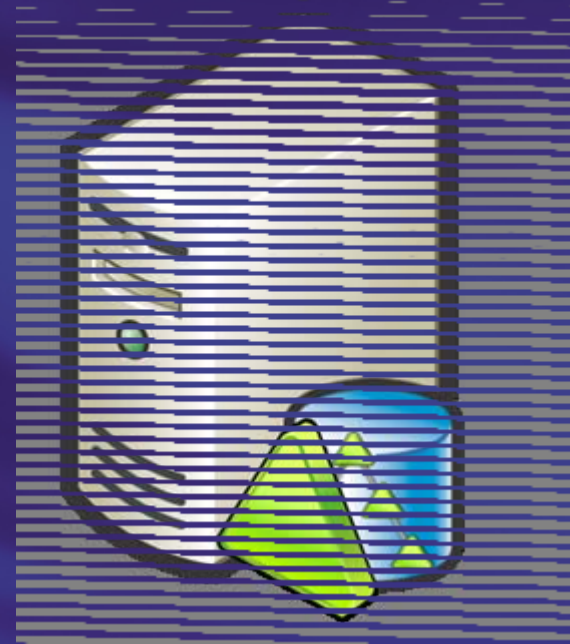
**Site A**

**CONTOSO.COM**

**Site B**

# Global Catalog

- Spans all domains
- Contains object attributes
- Used for searches
- Exists on domain controllers





# *demonstration*

## Using Sites and Global Catalogs

- Create a Site
- Review Global Catalog Settings
- Choose Global Catalog Attributes



# Agenda

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# DNS

Domain Naming System locates network services and resources.

## DNS Request Process



DNS Server

- Requested Service
- Site Information

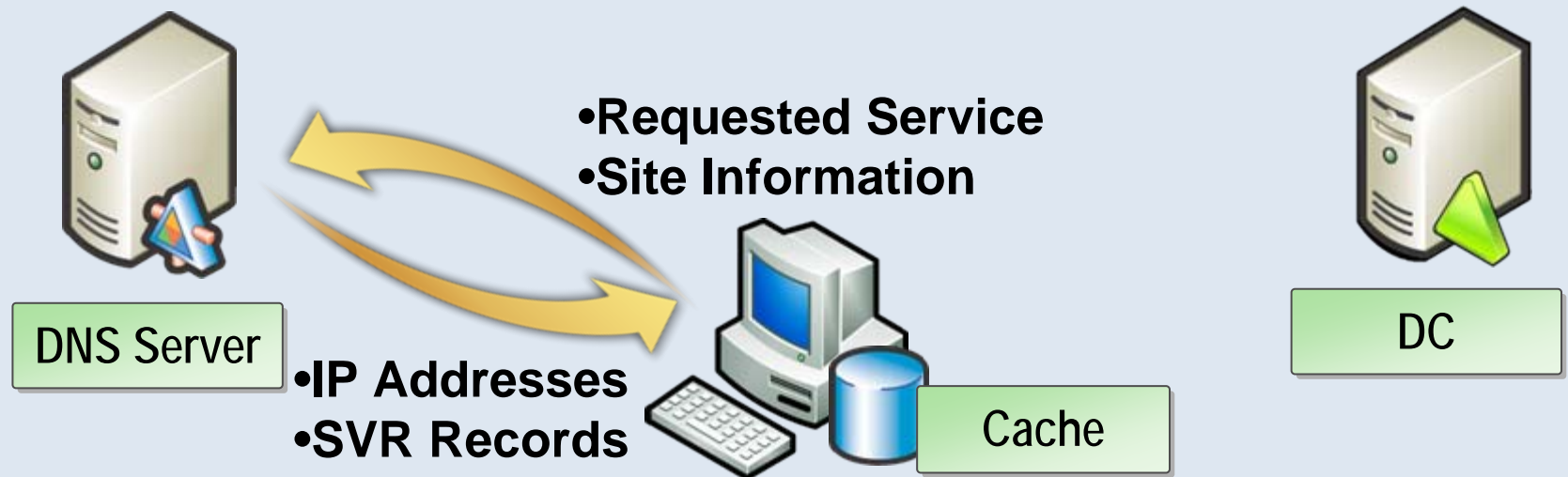


DC

# DNS

Domain Naming System locates network services and resources.

## DNS Request Process

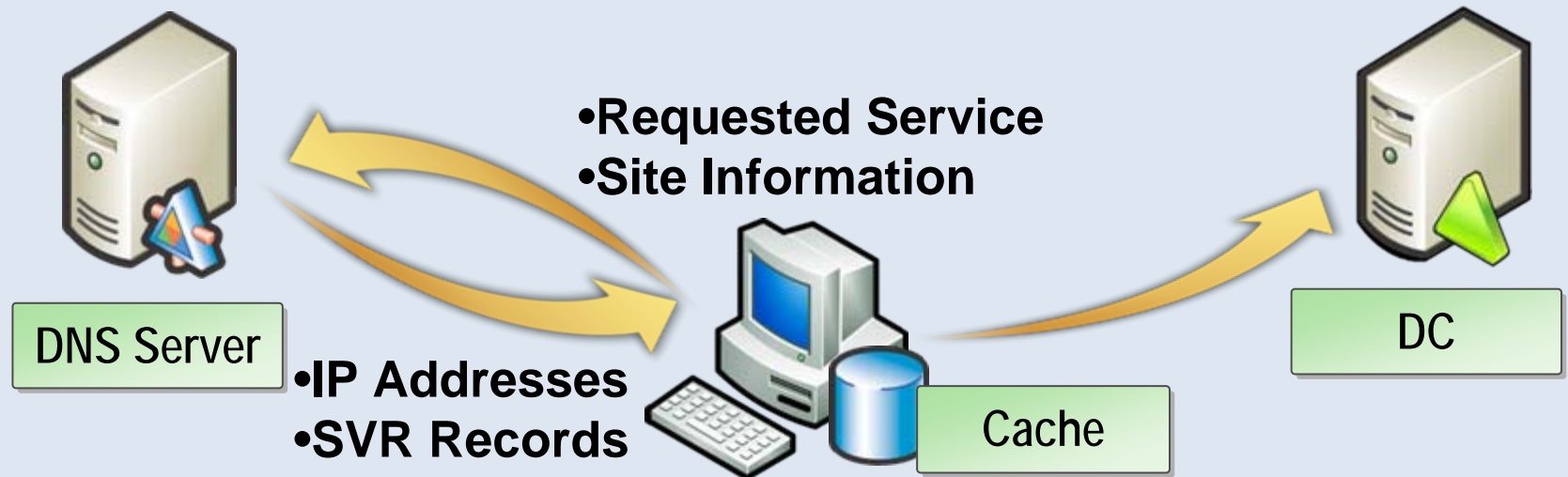




# DNS

Domain Naming System locates network services and resources.

## DNS Request Process



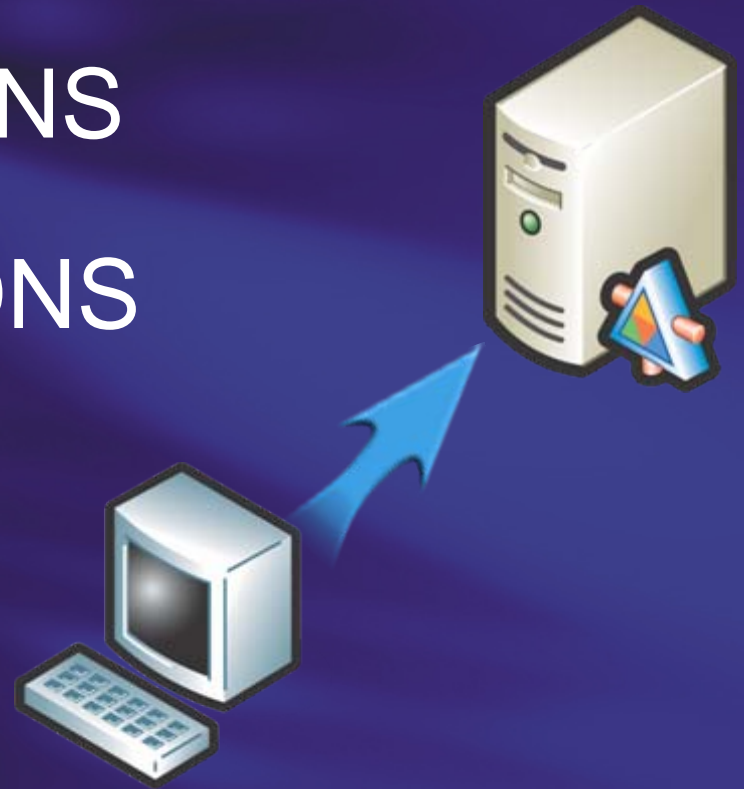
# DNS Systems and Requirements

	BIND 8.1.2	Windows NT	Windows 2000	Windows Server 2003
Dynamic Update*	✓	✓	✓	✓
AD Integration			✓	✓
Secure Update		✓	✓	✓
SRV Records*	✓	✓	✓	✓

\* Required for Active Directory

# DNS Migration

- Upgrade to BIND 9.x
- Upgrade to Microsoft DNS
- Delegate to Microsoft DNS





# *demonstration*

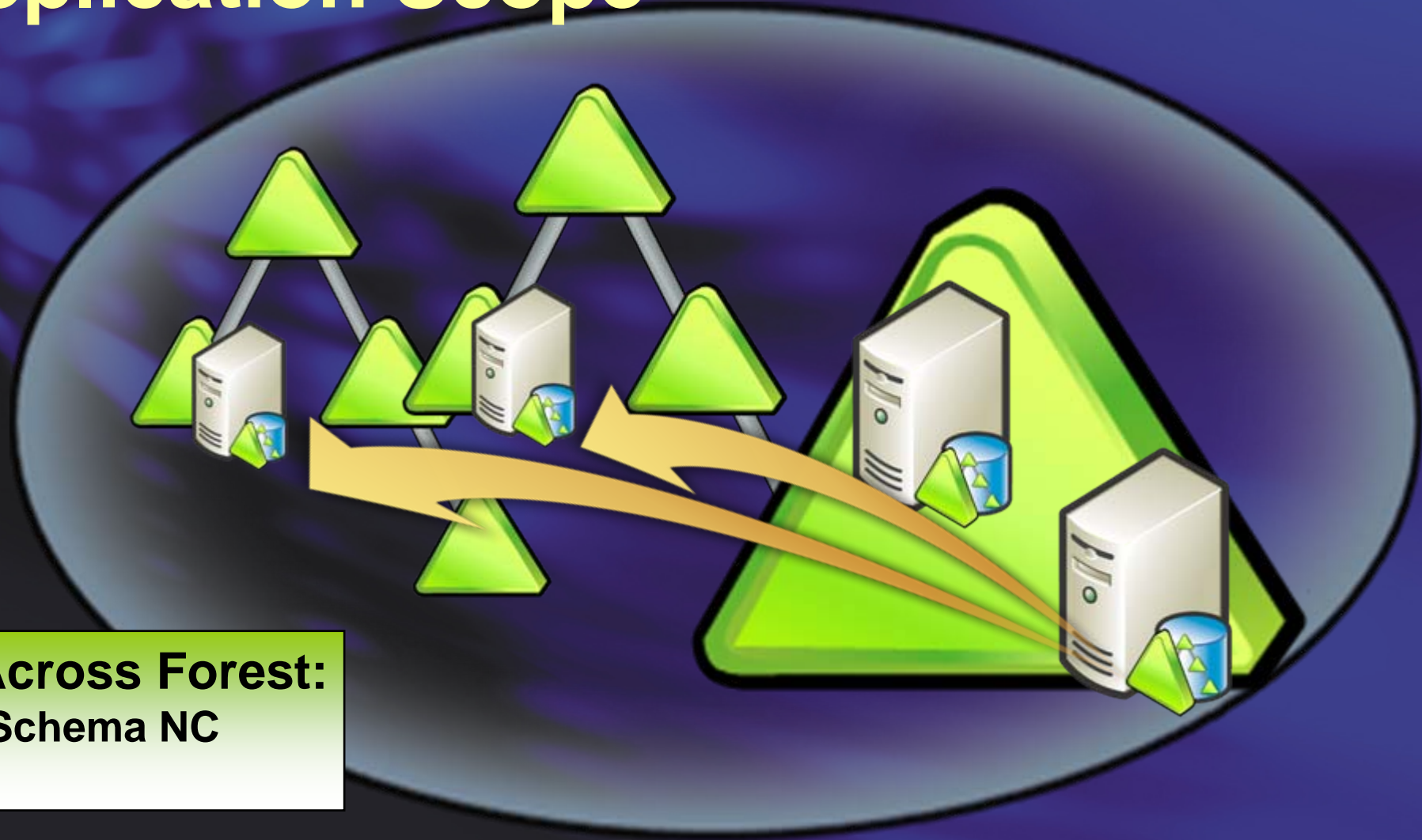
## Working with DNS

- Review DNS Zones
- Review Host Records and Dynamic Update

# Agenda

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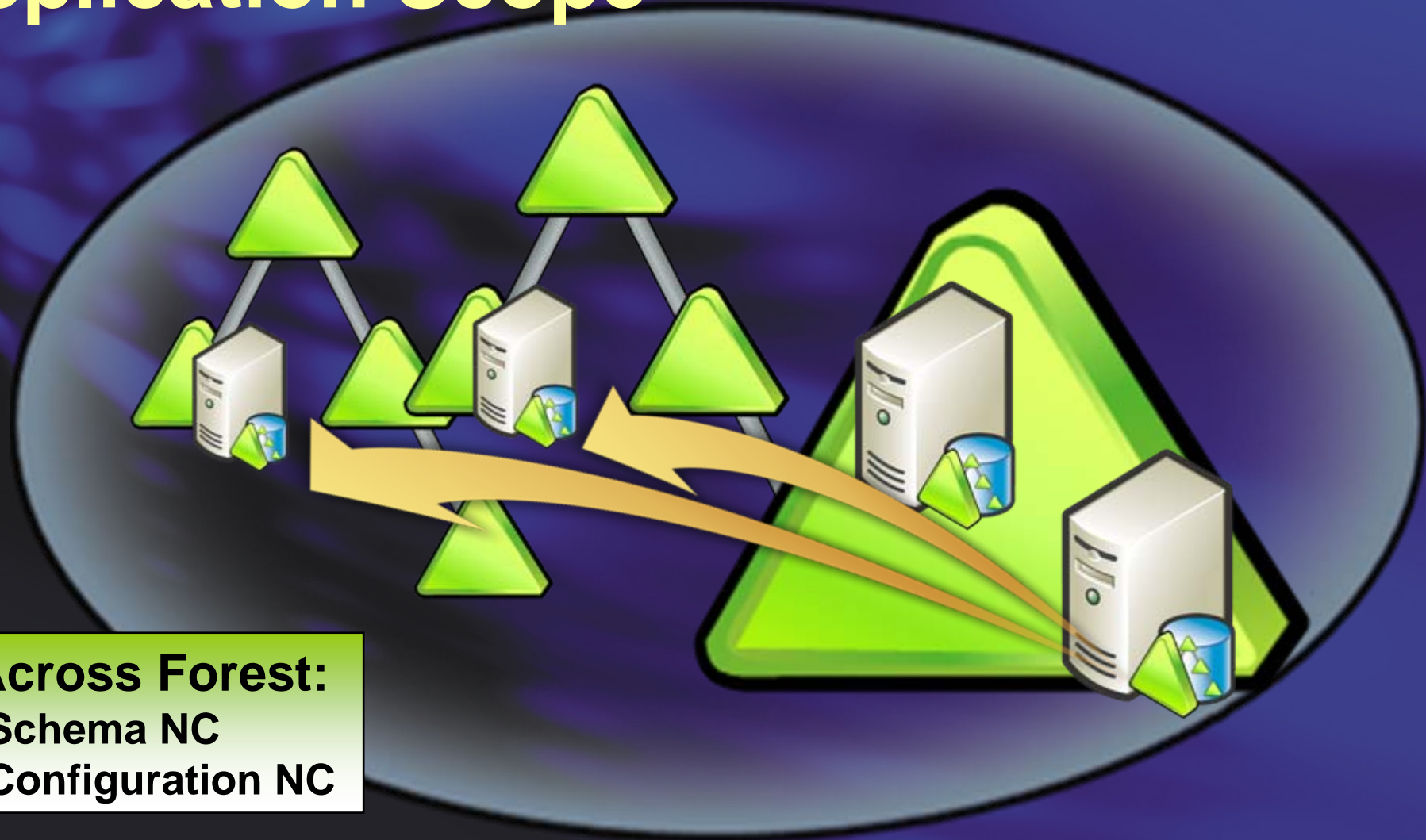
# Replication Scope



**Across Forest:**  
•Schema NC



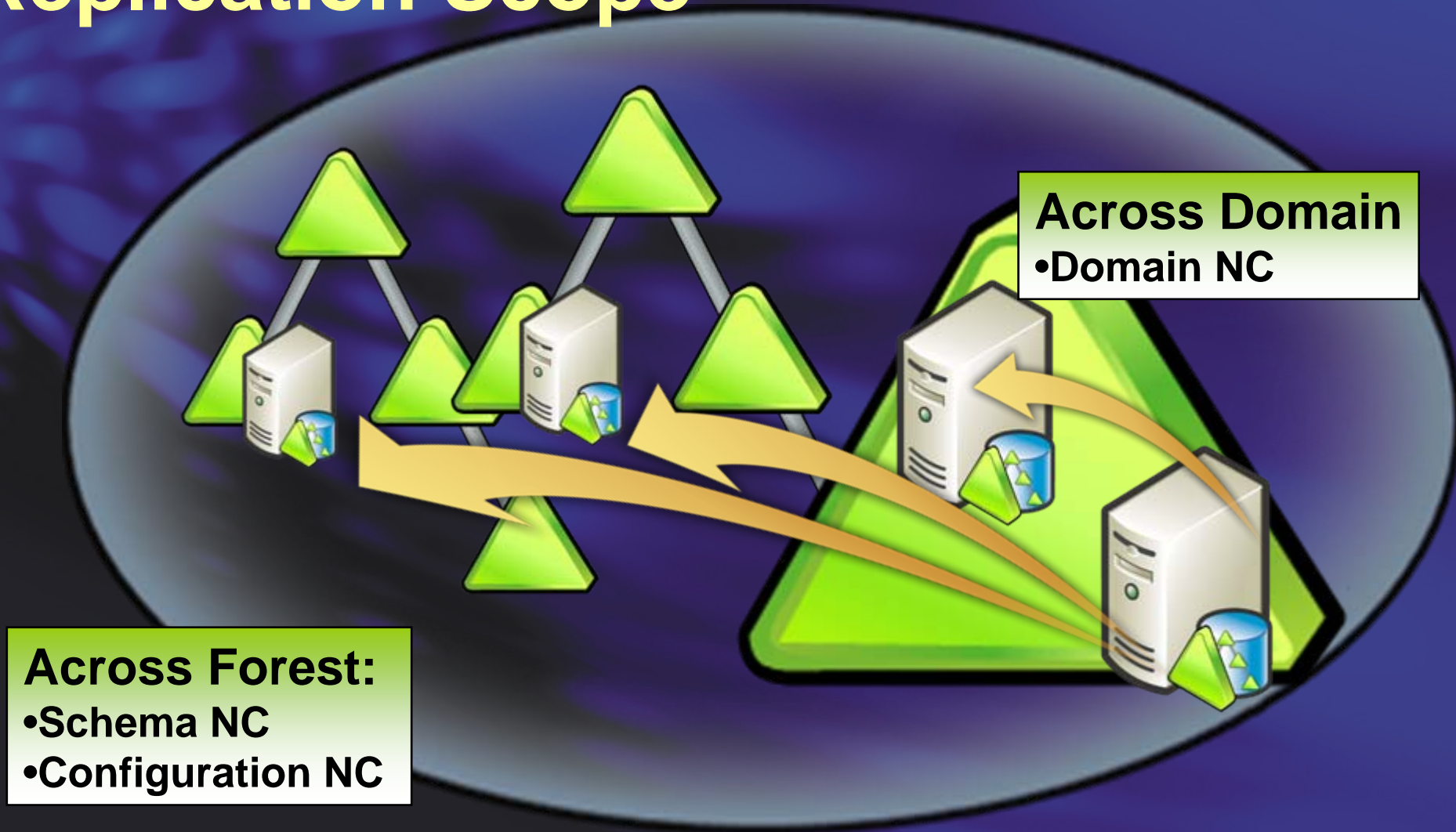
# Replication Scope



**Across Forest:**

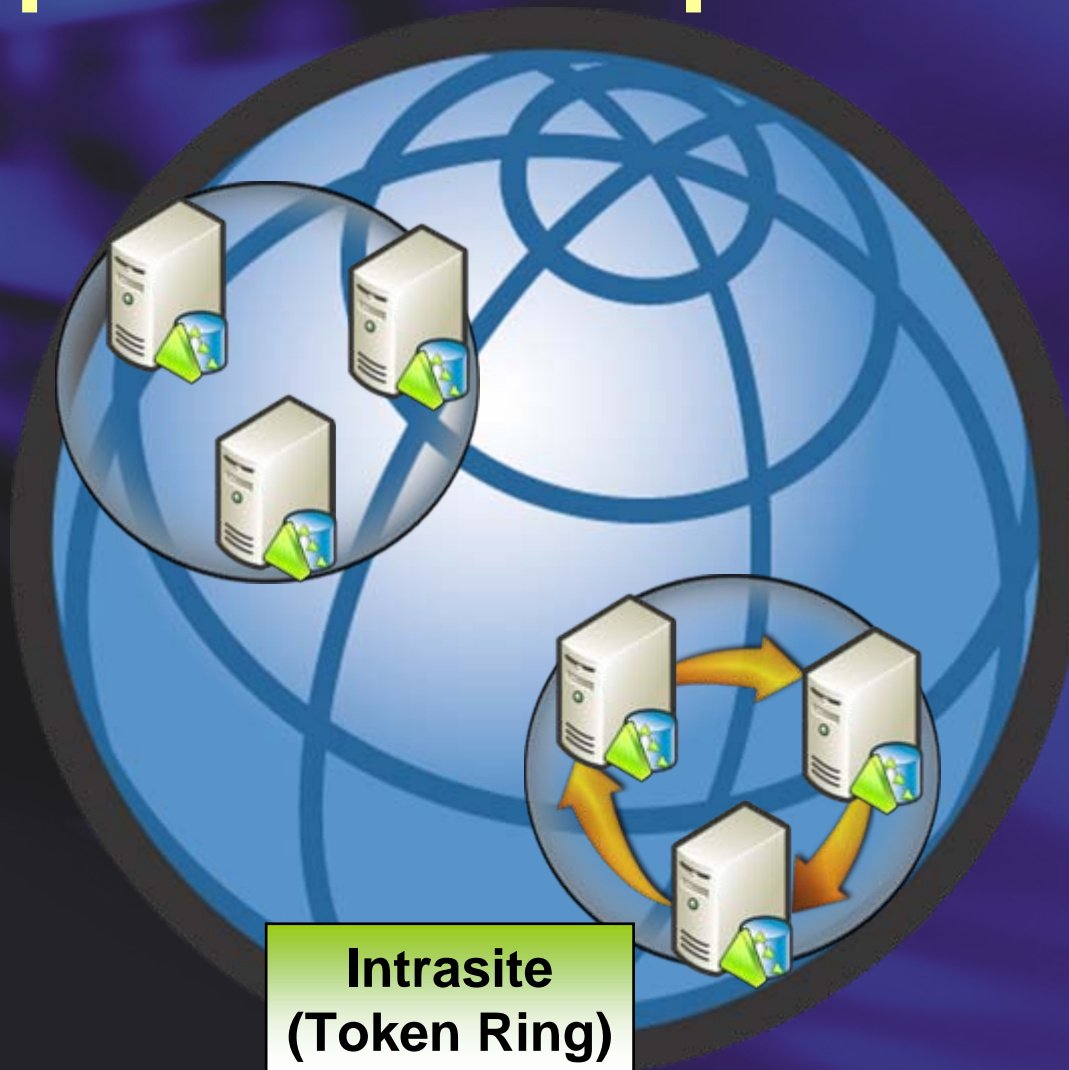
- Schema NC
- Configuration NC

# Replication Scope



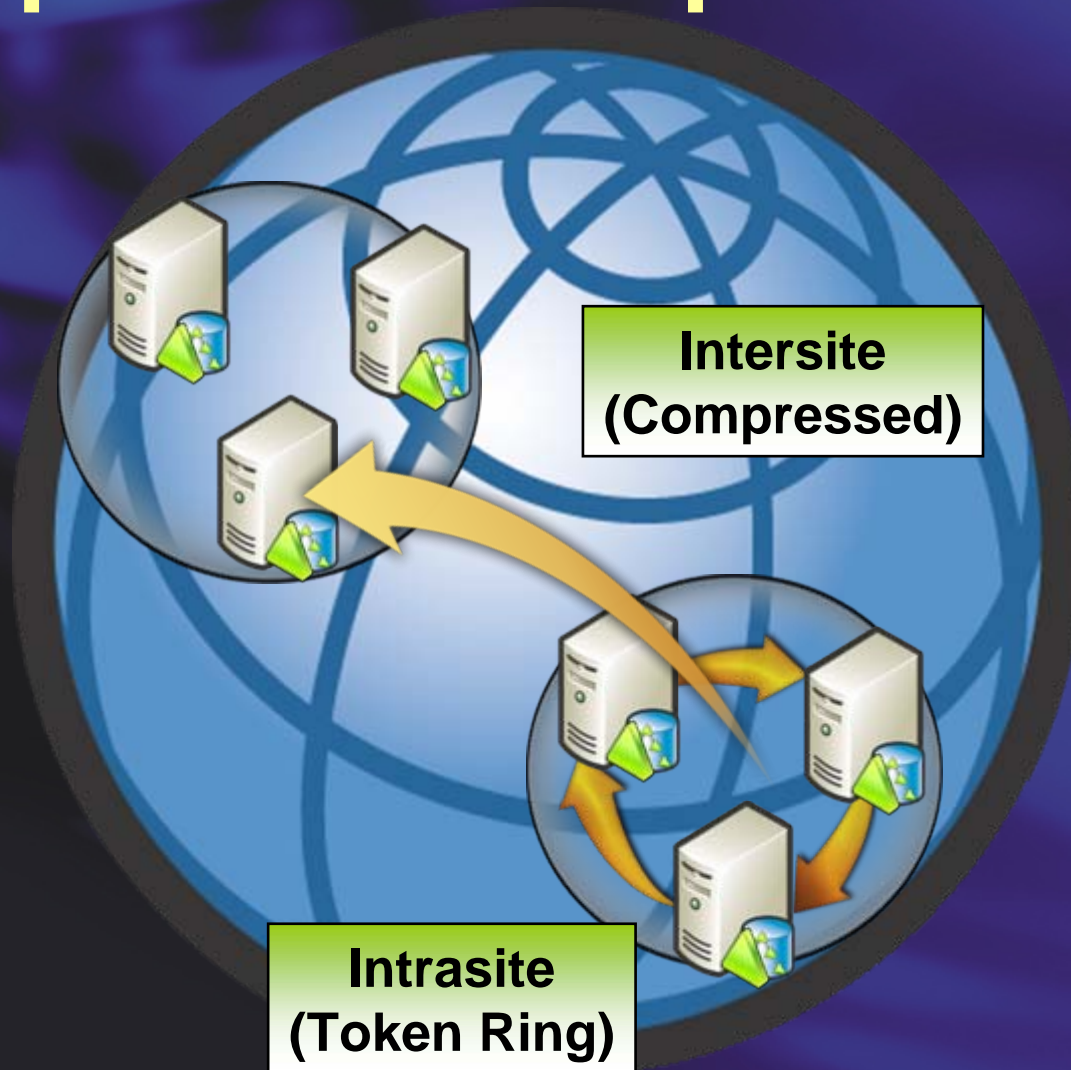


# More Replication Scope





# More Replication Scope



# *demonstration*

## Working with Replication

- Enable Replication
- Review Replication

# Agenda

- Logical Concepts of Active Directory
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# Operations Masters

- Performs operation exclusively
- Within designated scope
- Defaults to first domain controller



# Operations Master Roles

## Forest Roles

Schema Master



Domain Master



# Operations Master Roles

## Forest Roles

Schema Master



Domain Master



## Domain Roles

PDC Emulator



RID Master



Infrastructure





# Session Summary

- Manage and control your network resources more easily with OUs.
- Upgrade to the free Microsoft DNS package for enhanced integration.
- Active Directory replication protects data and optimizes network traffic.

# For More Information

Visit TechNet at

[www.microsoft.com/technet](http://www.microsoft.com/technet)

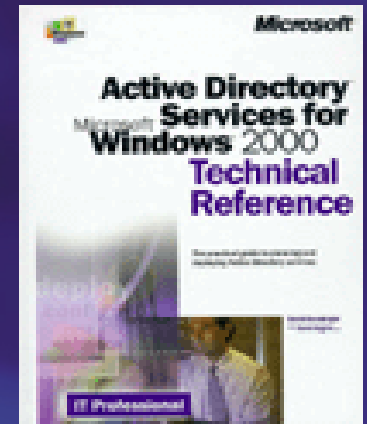
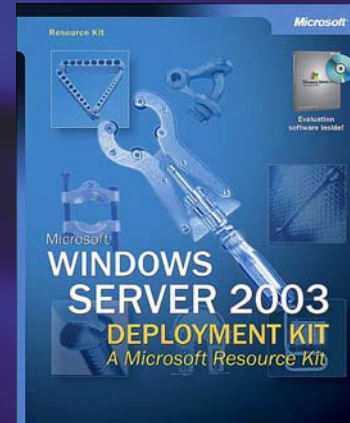
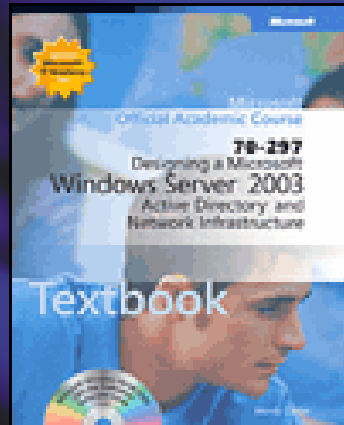
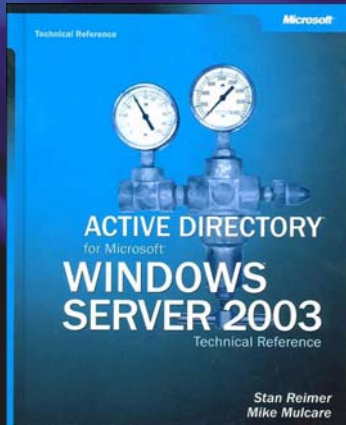
Visit the following URL for additional information

[www.microsoft.com/technet/ADD-01](http://www.microsoft.com/technet/ADD-01)

or

[technet.microsoft.com/ADD-01](http://technet.microsoft.com/ADD-01)

# Microsoft Press Publications

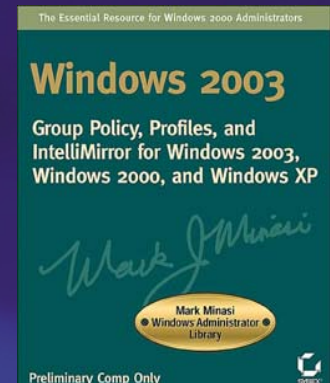


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# Non-Microsoft Publications



These books can be purchased at all major bookstores and online retailers.



# Training Resources

Course ID	Title
2199	Jumpstart: Active Directory Fundamentals
2282	Designing a Microsoft Windows Server 2003 Active Directory and Network Infrastructure

For training information and availability  
[www.microsoft.com/learning](http://www.microsoft.com/learning)



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# Where Else Can I Get Help?

- Free chats and webcasts
- List of newsgroups
- Microsoft community sites
- Community events and columns

[www.microsoft.com/technet/community](http://www.microsoft.com/technet/community)