

# ATM Name Service (ANS)

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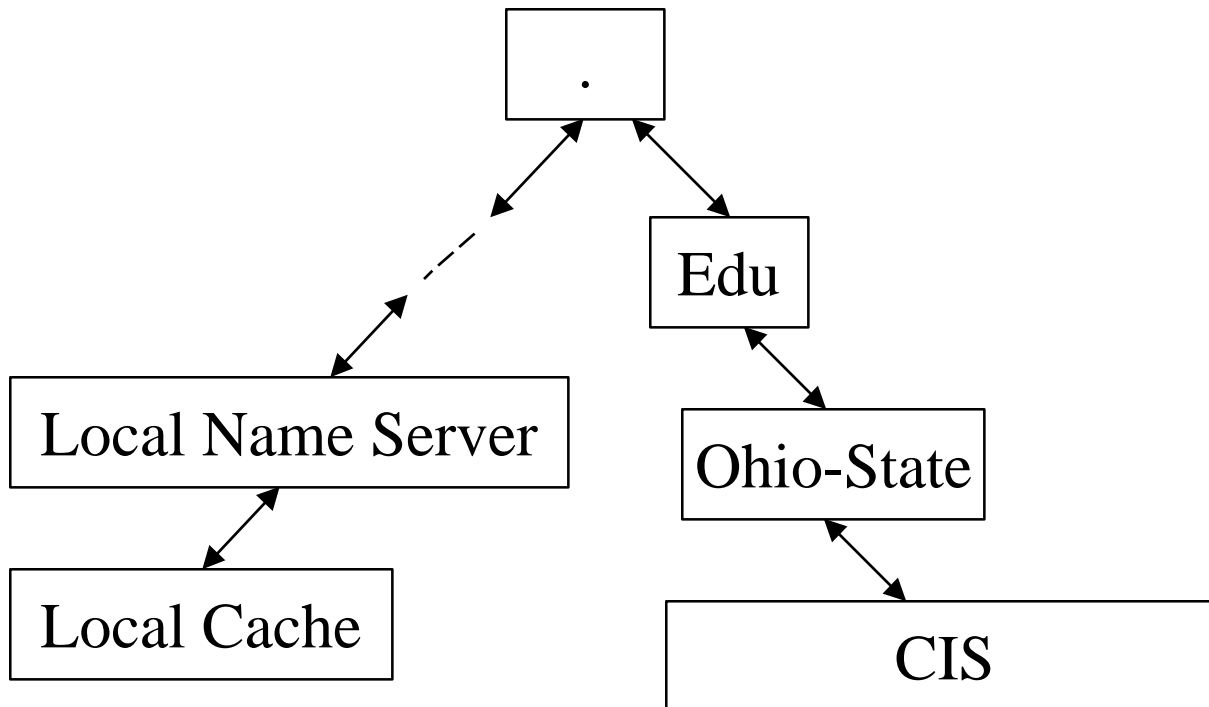
- q What is a name system?
- q ATM Name system
- q ATM address to name translation

# ATM Name System

- q Directory services
- q Similar to Domain Name System (DNS)
- q Provides numerical address and other info for a name
- q DNS Name = Liberia.cis.ohio-state.edu
- q IP Address = 164.107.134.5
- q Domain name to address translation and vice versa
- q DNS specified in RFC 1034 and 1035

# Name Resolution

What is the IP address of snoopy.cis.ohio-state.edu?



# ANS Server

- q Similar to DNS Server
- q Provides domain names to ATM Address translation
- q ATM Address types:
  - q AESA = ATM End System Address = NSAP format  
ATM address
  - q E164 = E.164 format

# AESA Translation

- q Domain name = Selector.End system identifier.Domain specific part.Data country code.Authority and format id.ATM address type.ATM Address.International
- q Digits of High Order-Domain Specific Part (HO-DSP) field are reversed and separated by “.”
- q ATM Address: 3924-6F00-0E7C-9C03-1200-0100-0100-0012-3456-7800
- q Domain Name:  
00.000012345678.1.0.0.0.1.0.0.0.2.1.3.0.C.9.C.7.E.0.0.0.24  
6F.39.AESA.ATMA.INT

39	Data Country Code (2B)	High-Order DSP (10B)	End System ID (6B)	Selector (1B)
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# E.164 Translation

- q National number.country code.E164.ATMA.INT
- q Digits of national number are reversed and separated by .
- q Phone Number: +358.400.1234567
- q ATM Address: 3584001234567
- q Domain name: 7.6.7.4.3.2.1.0.0.4.358.E164.ATMA.INT

# ANS: Other Details

- q User interfaces may allow ATM address to be written in natural order with or without dots.
- q ANS runs directly on ATM.  
DNS runs on TCP/IP or UDP/IP.
- q ANS server to ATM clients use VC.
- q ANS servers use TCP (for reliability) to communicate among themselves in Phase 1.
- q Clients get ANS server address via ILMI or from a well known address.
- q The well-known address is:  
02C5 0079 0000 0000 0000 0000 0000.00A03E000002.00

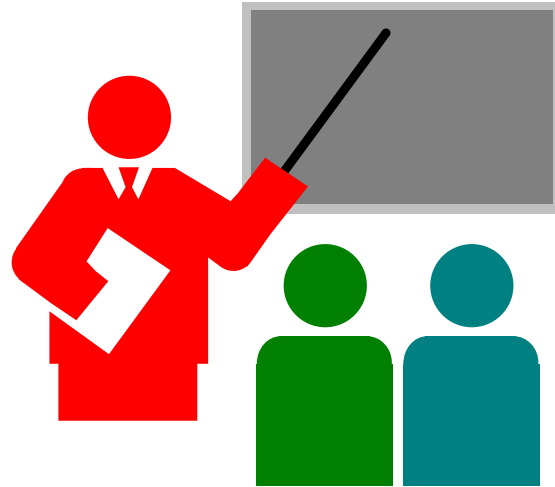
# Why DNS?

- q DNS is widely implemented, well understood, works.
- q Domain registration procedures in most countries
- q Future DNS extensions on dynamic updates and security can be reused.
- q Allows dual hosts to choose between IP and native ATM.

# ANS: Phase 2 Plans

- q Security extensions
- q Dynamic update capability
- q Prompt notification of zone changes
- q Incremental zone transfer capability

# Summary



- q ATM Name system is modeled after domain name system
- q ATM addresses can be translated to domain names

# References: Directory Services

- q "ATM Name System (ANS) Specification," Version 1.0, ATM Forum/95-1532R3, June 1996.
- q RFC 1034, "Domain names: concepts and facilities," November 1987, 55 pp.
- q RFC 1035, "Domain names: implementation and specification," November 1987, 55 pp.