



U.S. Department of Education
1998 Electronic Access Conferences

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Session 43- 1



Session 43

Mainframe Connectivity to Title IV Wide Area Network



Session 43

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Agenda

- Introduction
- Review current users
- What is Enterprise?
- How will Enterprise effect you?
- Plan for transition
- What about Internet?
- PC communications alternative!
- Summary
- Open discussion



Introduction

- Where we are and where we are going?
 - **Move from Open*Net to Enterprise**
 - **Move to Open Technologies**
 - **Non-proprietary protocols such as**
 - **TCP/IP**
 - **FTP**
 - **TN3270**



Review current users

■ Platforms

- IBM
- DEC
- H/P

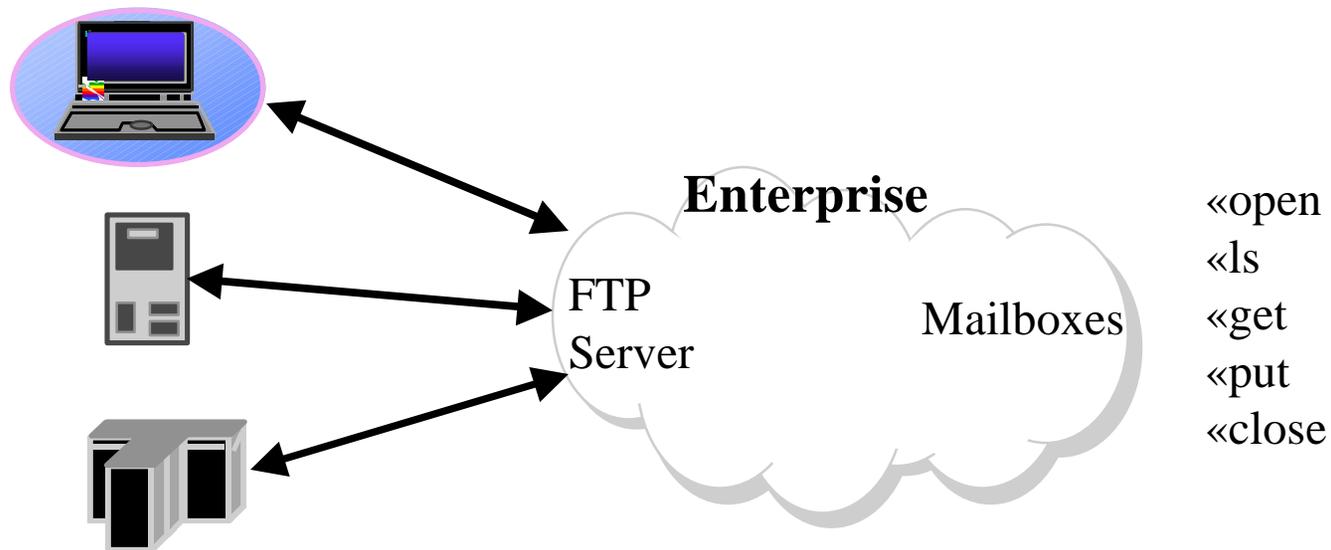
■ Protocols

- SNA
 - VTAM LU6.2
 - 3770
- Bisync
 - DSXMITX
 - 3780



What is Enterprise?

- Replaces Open*Net mailboxing
- Uses “Open Technologies”
- Located in Department Of Education Virtual Data Center





How Enterprise will effect you?

- File transmission procedures
- Compression software
- ASCII environment
 - Conversion
- Enveloping structure
 - Network Headers and Trailers
- Logical record lengths
 - Data sent
 - Data received



■ File transmission procedures

FTP Server Commands



■ File transmission procedures

FTP Server Commands

```
[host][path]$ ftp 4.20.3.251 10261  
Connected to [host].  
220 Enterprise FTP server (Version 6.1 1998  
February) ready.  
Name ([host]): TG50000  
331 User name okay, need password.  
Password:  
230 User logged in, proceed.  
Current Default relationship -  
Recv: TG50000 APRF: *BINARY  
Get option: single  
230 Remote system type is Unix.  
Using binary mode to transfer files.  
ftp>
```



■ File transmission procedures

FTP Server Commands

```
ftp> ls mb
```

```
200 Command Okay.
```

```
150 Opening data connection for transfer.
```

```
Sender ID  St  APRF'      SNRF'              Service Ref.
```

```
-----  
TG50002    Y  SARA990P 98061712230502 008085911823017410
```

```
226 Closing data connection - action successful.
```

```
List command OK, SNRF: 98061712231832
```

```
ftp>
```



■ File transmission procedures

FTP Server Commands

```
ftp> ls pb
```

```
200 Command Okay.
```

```
150 Opening data connection for transfer.
```

```
Recipient ID  Date:Time          APRF      SNRF
Service Ref.      Status Code
-----
TG50002  19980617:114242  EAPS99IN  98061711424102
003107072562073307  0
```

```
226 Closing data connection - action successful.
```

```
List command OK, SNRF: 98061711425802
```

```
226
```

```
ftp>
```



■ File transmission procedures

FTP Server Commands

Command:

```
put 'TG50000.TEST.DATAOUT' %TG50002%EAPS99IN%b
```

```
200 Command Okay.
```

```
150 Opening data connection for transfer.
```

```
858540 bytes transferred.
```

```
226-Closing data connection - action successful.
```

```
:Mailboxing SNRF: 98102617185503.
```

```
:TIP status: No errors detected.(0000)
```

```
3505008 bytes transferred in 107.558 seconds.
```

```
Transfer rate 32.59 Kbytes/sec.
```

Command:



■ File transmission procedures

FTP Server Commands

Command:

cd %m ←

:Get option: multiple

Command:

get %%SARA99OP `TG50000.TEST.DATAINXX` ←

200 Command Okay.

150 Opening data connection for transfer.

365720 bytes transferred.

226-Closing data connection - action successful.

:Extraction command SNRF: 98102617344205

3505008 bytes transferred in 98.408 seconds.

Transfer rate 35.62 kbytes/sec.

Command:



■ File transmission procedures

FTP Server Commands

Command:

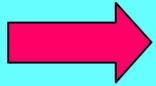
close

Command:

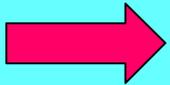
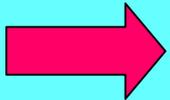
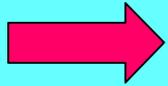


■ File transmission procedures

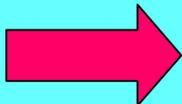
FTP Server Commands



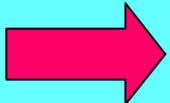
```
ftp 4.20.3.251 10261
```



```
put 'TG50000.TEST.DATAOUT' %TG50002%EAPS99IN%b  
put 'TG50000.TEST.DATAOUT' *
```



```
get %%SARA99OP `TG50000.TEST.DATAINXX`  
get %TG50002 `TG50000.TEST.DATAINXX`  
get * `TG50000.TEST.DATAINXX`
```





■ Compression software

All files sent to Enterprise will be compressed using the same software now in use.



■ Logical record lengths

The logical record lengths of the data sent and the data received is currently 80. There may be a change which will be determined by the compression program and the transmission control characters included in your transmissions. This will be clarified in the user's guide.



■ ASCII environment

All FTP transmissions must be sent and received in binary mode. This is to assure the integrity of the binary data being sent.



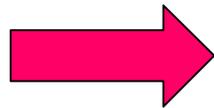
■ Enveloping structure

Network Headers and Trailers

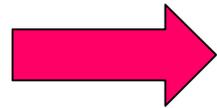
Headers and trailers must be included with the input data, if you do not use the command entries to specify the receiver (destination) and aprf (message class code).



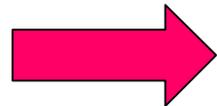
■ Enveloping Contents



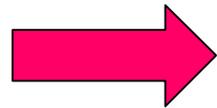
Sender ID



Sender Password



Receiver ID



Message Class



Plan for transition

- Evaluate your system
 - Host Evaluation Document
- Gradual ramping in 1999
- Beta group
- Help with conversion



Verify the Communications Prerequisites

- Router based communications

- For TCP/IP the host TCP/IP communications software and the attached router(s) manage the network protocols. The router must have a direct connection to either GEIS or the ED data center in Merridan (VDC). The GEIS routers are Cisco 5200. You should have a compatible Cisco router or verify your router does comply with the K56 flex or V90 standards.

- Dial PPP communications

- Dial PPP is supported via dialup to the nearest GEIS HPN node. The GEIS service service operates up to 33.6 BPS. Detailed instructions on setting up dial PPP and the various access authority is available from NCS customer service.



What about Internet?

- Security issues
 - Encryption
 - Infrastructure
- Time frame
 - 1999



PC Communications Alternative

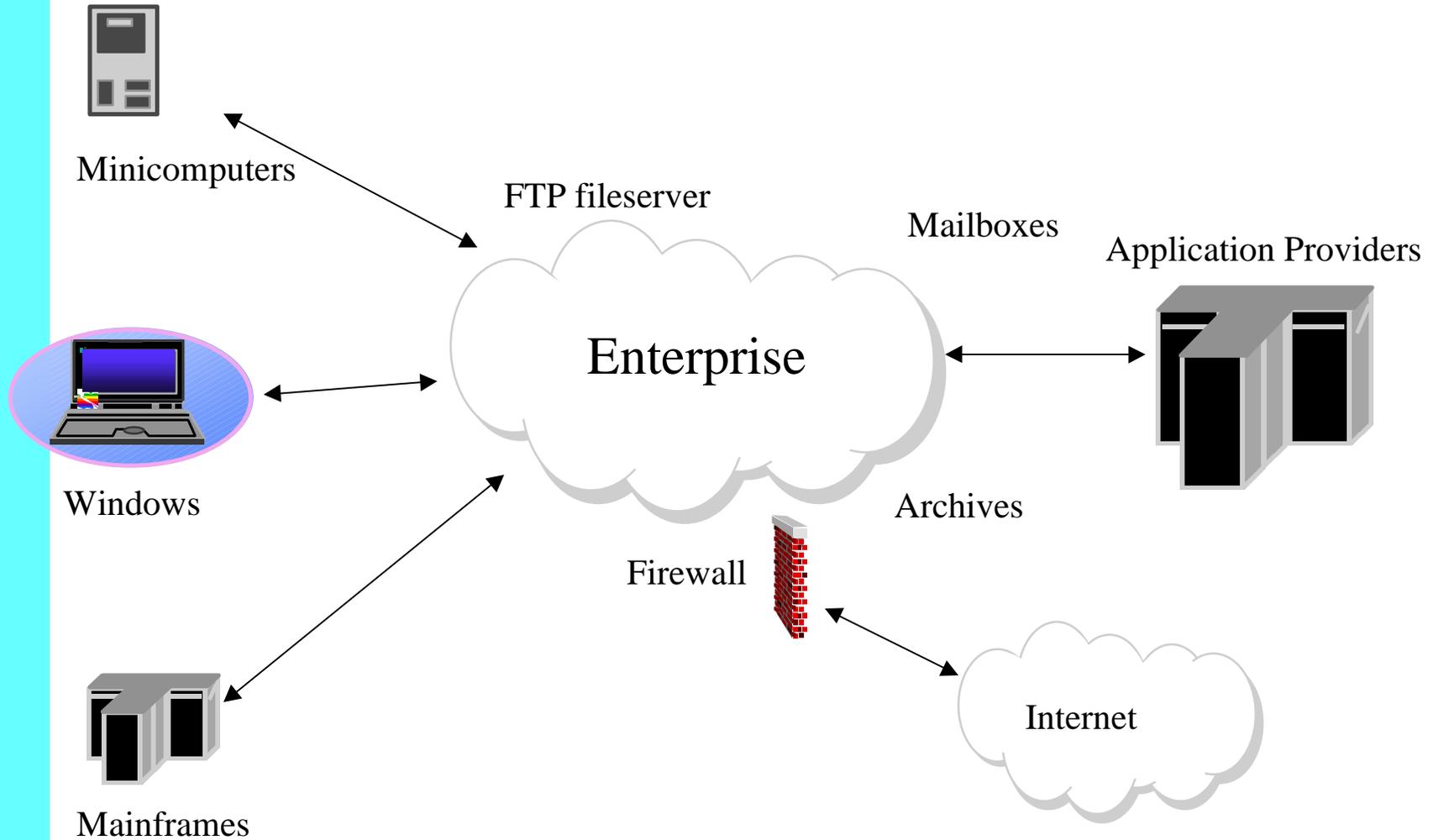
- What is EDconnect 32 bit software
- Why use PC Software



Mailboxes



Summary





Open Discussion