

Handwritten:
ADD-SR

FBIS-2429/88

12 JUL 1988



MEMORANDUM FOR: Distribution

FROM: Communications Segment Manager, ADD

SUBJECT: Minutes of the 29 June 1988 HCS Technical Exchange Meeting

1. Representatives of FBIS/ESG, OIT/CED, CONTEL, and Lockheed Electronics (LEC) met in the ESG conference room at 1330 hours on Wednesday, 29 June 1988. The agenda is provided in Attachment A. The list of attendees is provided in Attachment B.

2. New Connectivity Requirements - Five telephone changes were requested by FBIS.

STAT

a. Remove call waiting from non-secure extension [redacted] [redacted] has telephone [redacted]. Many callers in Maryland fail to use the area code and are routed to this extension, with a rate as high as 1 each minute. (Note: CONTEL made this change effective 6 July 1988.)

STAT

STAT

b. Four additional secure telephones in the User Support Branch need to support Classified AFS terminals. (Note: Detailed requirements for these secure lines are being drafted in memorandum FBIS-2430/88, which is to be submitted to OIT.)

3. Schedules

a. Delivery - [redacted] of LEC reported that the four terminal server cabinets with wiring harnesses are ready for delivery to FBIS. Access holes have been punched to permit running communication cables between the cabinets. It does not appear that anti-chafing material is required in the holes for protection of the cables. One hole remains to be punched in the cabinet side adjacent to the Flex IM. It was agreed to proceed shipping the cabinets to FBIS during the following week. (Note: the cabinets arrived at FBIS on 6 July 1988.)

STAT

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b. Installation - The Flex IM is positioned in the Data Center and the fiber optic cable has been installed. The secure circuits in the Data Center are to be rerouted through the Flex IM by the end of July 1988. The STE to ITE conversions are in progress and should be completed by 18 July 1988.

c. Testing

1) [] has provided the end-to-end circuit test plan shown in Attachment C. That plan needs to be modified to reflect the extensive capabilities of the terminal server in supporting such tests.

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2) OIT plans to begin tests after the STE to ITE conversions are completed. [] is available for those tests but does not have the required security clearances for working with equipment attached to the secure PBX. As a precaution, he is documenting a test procedure for CONTEL personnel which makes use of the terminal server (Action Item HCS-081).

STAT

d. Sealing Data Center

1) The non-secure telephone circuits in the Data Center are expected to be run through fiber optic isolators by the end of July 1988. It is expected that each circuit conversion takes no more than thirty minutes to complete.

2) [] has prepared a letter requesting isolation of the MINWK and Wang ICT circuits. The letter needs approval by the respective contracting officers before CONTEL can accept the task. It is expected that each circuit conversion may take several hours to complete.

STAT

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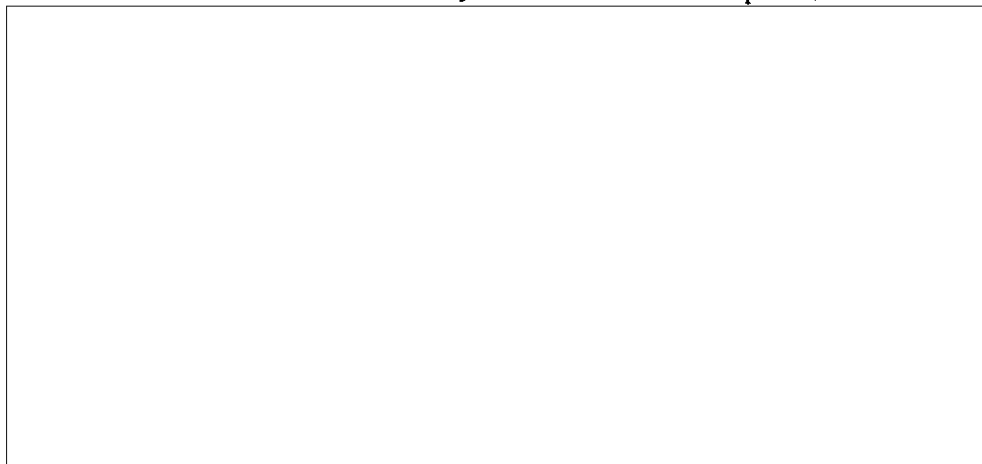
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4. Security Concerns

a. The present configuration of the terminal server ports is set up as:

<u>Configuration</u>	<u>Qty</u>	<u>See Attachment</u>
Dial-up Ports	17	D
Nailed Terminal Ports	377	E
Nailed Printer Ports	54	F
Total Ports	448	

b. Requirements call for twenty one dial-up terminals to access AFS. This means that there are four more dial-up terminals than available dial-up terminal server ports.



STAT

a) Reduce the number of dial-up circuits to match the available number of dial-up ports.

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b) Reduce the number of nailed circuits attached to the terminal server, freeing up ports to be reconfigured for supporting dial-up terminals. In this case, the nailed circuits remain in place but cannot be used until the number of terminal server ports is expanded to accommodate them. FBIS needs to determine which circuits can be disconnected. (Note: the only reason for dial-up AFS circuits is to permit sharing of telephone lines with VM terminals.)

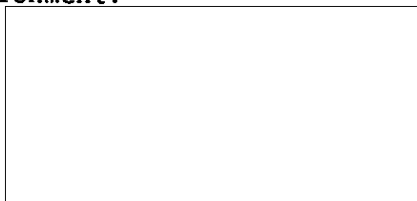
5. Port Distribution - Detailed information regarding terminal server port distribution has been provided to DC/AFSB. Some of the information needs to be updated but no significant problems are evident at this time.

STAT

6. Action Item Review - The status of the action items reviewed in the meeting are listed as Attachment G.

7. Future HCS Communications Technical Exchange Meetings may not be required. It is expected that present outstanding issues can be addressed outside the TEM environment.

STAT



Attachments

FBIS-2429/88

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DS&T/FBIS/ESG/ADD/SES [redacted] (05JUL88)

STAT

Distribution:

Original - C/ESG

DC/ESG

SA/ESG

1 - C/HED

1 - DC/HED

1 - C/EB

1 - C/AFSB

1 - DC/AFSB

1 - [redacted]

STAT

1 - C/ADD

DC/ADD

1 - [redacted]

STAT

1 -

1 -

1 -

1 -

1 -

1 -

1 -

1 -

1 -

1 -

1 -

1 - GE/SES Chrono

1 - FBIS Registry

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Attachment A

CONTEL/FBIS/LEC/OIT TEM Agenda

29 June 1988

1330 Hours

New Connectivity Requirements

Schedules

- Delivery
- Installation
- Testing
- Sealing Data Center

Security Concerns

Port Distribution

Action Items

Page Denied

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DATA TESTING

Test Configurations:
(reference drawing #1)

1. Nailed 3 wire ckts
2. Dial-up 3 wire ckts
3. Nailed 5 wire modem control ckts

Test Equipment Recommended:

1. 2/Async terminals (RS-232 Interface) (GFE)
- Type 1 2. 2/Source for Transmitting Data (1 CFE and 1 GFE)
- Type 2 3. 2/Source for Transmitting Data (capable of operating in modem control). (To be used in alternate modem control testing, if supplied by the customer.)
4. 1/Test printer (capable of operating in modem control). (To be used in alternate modem control testing, if supplied by the customer.)
- Type 1 5. 2/RS-232 cables (straight through, supporting pins 2, 3 and 7).
- Type 2 6. 2/RS-232 cables (straight through, supporting pins 2, 3, 6, 7 and 20).

NOTE: The data communication parameters will be the same for all tests:

9.6K Baud
8 Bit Word
No Parity
1 stop Bit

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1. Nailed 3 Wire Ckts
(reference drawing #2)
Verification of end-to-end data transfer can be accomplished by:

- A. Station Equipment

1. Connecting a Type 1 RS-232 cable to the ADI-100 or DOB-1 being tested.
2. Connecting an async terminal to the other end of the cable installed in step 1 (above)..

- B. Switch Equipment

1. Connecting a Type 1 RS-232 cable to the ADI-101 being tested.
2. Connecting a Type 1 data source to the other end of the cable installed in step 1 (above).

Upon completion of steps A and B (above) verify data transfer by:

Transmitting data (the Quick Brown Fox message) from the switch equipment data source, and receiving the transmitted data at the station equipment terminal.

Disconnect the Async terminal from the station equipment RS-232 cable, and connect the Type 1 data source to the RS-232 cable.

Disconnect the Type 1 data source from the switch equipment RS-232 cable, and connect the Async terminal to the RS-232 cable.

Transmit data (the Quick Brown Fox message) from the station equipment data source, and receiving the transmitted data at the switch equipment terminal.

Repeat these procedures for each applicable station equipment locations and the associated switch equipment locations.

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2. Dial-up 3 wire ckts
(reference drawing #2)
Verification of end-to-end data transfer can be accomplished by:

A. Station Equipment

1. Connecting a Type 1 RS-232 cable to the ADI-100 or DOB-1 being tested.
2. Connecting a Async terminal to the other end of the cable installed in step 1 (above).

B. Switch Equipment

1. Connecting a Type 1 RS-232 cable to the ADI-101 being tested.
2. Connecting a Type 1 data source to the other end of the cable installed in step 1 (above).

Upon completion of steps A and B (above) verify data transfer by:

Going off-hook on the ITE 12 Plus or ITE 12B, dialing the appropriate directory number, hearing the carrier tone (the data lamp will be flashing).

Push the data button to make connection (the data lamp will be solid), and going on-hook. (The data lamp will remain solidly lit.)

Transmitting data (the Quick Brown Fox message) from the switch equipment data source, and receiving the transmitted data at the station equipment terminal.

Disconnect the Async terminal from the station equipment RS-232 cable, and connect the Type 1 data source to the RS-232 cable.

Disconnect the Type 1 data source from the switch equipment RS-232 cable, and connect the Async terminal to the RS-232 cable.

Transmit data (the Quick Brown Fox message) from the station equipment data source, and verify receiving the transmitted data at the switch equipment terminal.

(When data transfer has been verified, push the data button to disconnect the data path, the data lamp will be extinguished.)

Repeat these procedures for each applicable switch equipment location. (ADI-101 in the dial-up group), also, perform this test from each applicable station equipment location (only 1 switch equipment location, ADI-101, need be tested from the remaining station equipment locations.)

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3. Nailed 5 wire modem control ckts
(reference drawing #3)

Verification of end-to-end data transfer can be accomplished by:

A. Station Equipment

1. Connecting a Type 2 RS-232 cable to ADI-100 or DOB-1 being tested.
2. Connecting a RS-232 break-out box, DCE adaptor, to the other end of the cable installed in step 1 (above).
3. Connecting an Async terminal to the DTE adaptor end of the breakout box installed in step 2 (above).

B. Switch Equipment

1. Connecting a Type 2 RS-232 cable to the ADI-101 being tested.
2. Connecting a RS-232 breakout box, DCE adaptor, to the other end of the cable installed in step 1 (above).
3. Connecting a Type 1 data source to the DTE adaptor end of the RS-232 breakout box installed in step 2 (above).

Upon completion of steps A and B (above), verify data transfer by:

Transmitting data (the Quick Brown Fox message) from the switch equipment data source, and receiving the transmitted data at the station equipment terminal.

Verify modem control leads by:

insterting positive voltage on Pin 20 at the switch equipment breakout box, and seeing pin 6 become active at the station equipment breakout box.

(repeat the above step from the station equipment breakout box to the switch equipment breakout box.)

Disconnect the Async terminal from the station equipment RS-232 cable, and connect the Type 1 data source to the RS-232 cable.

Disconnect the Type 1 data source from the switch equipment RS-232 cable, and connect the Async terminal to the RS-232 cable.

Transmit data (the Quick Brown Fox message) from the station equipment data source, and verify receiving the transmitted data at the switch equipment terminal.

Repeat these procedures for each applicable station location, and the associated switch equipment location.

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An alternate modem control ckt test can be performed, if a Type 2 data source is provided and an item #4 test printer is provided.

Verify Modem control by:

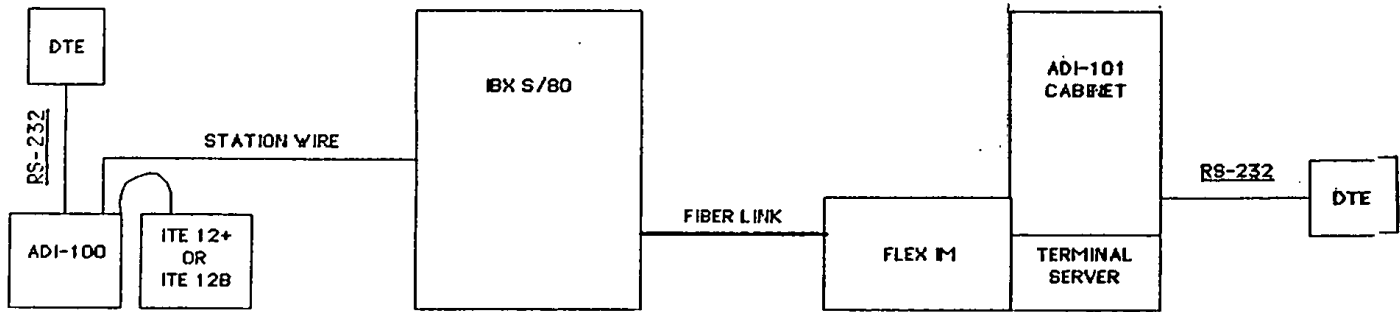
Transmitting data from the switch equipment Type 2 data source to the test printer, verify that data transfers.

Repeat these procedures for each applicable station equipment location and associated switch equipment locations.

362C

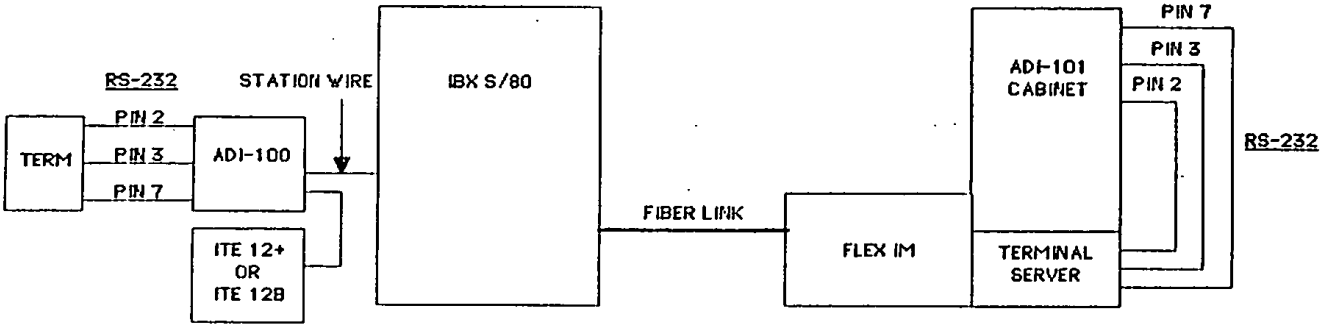
AFS DATA END-TO-END TESTING

DRAWING #1



DRAWING #2

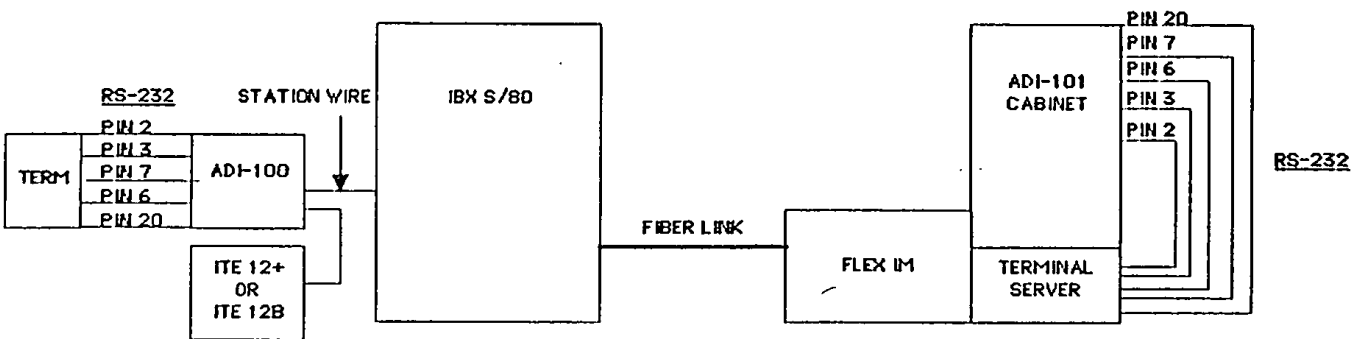
3 WIRE DIAL-UP & NAILED CKTS



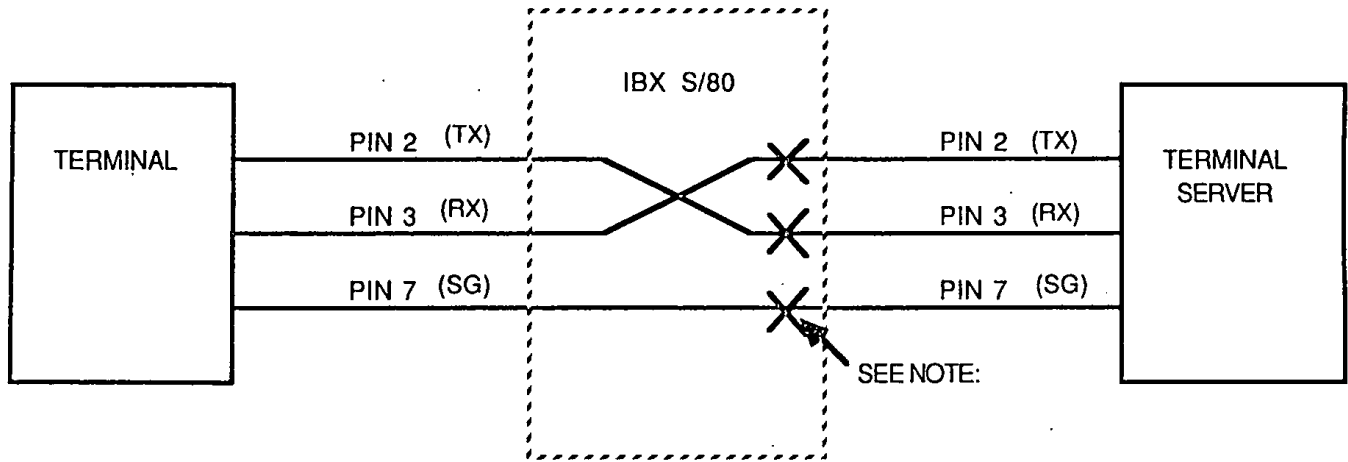
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AFS MODEM CONTROL CKTS

DRAWING #3

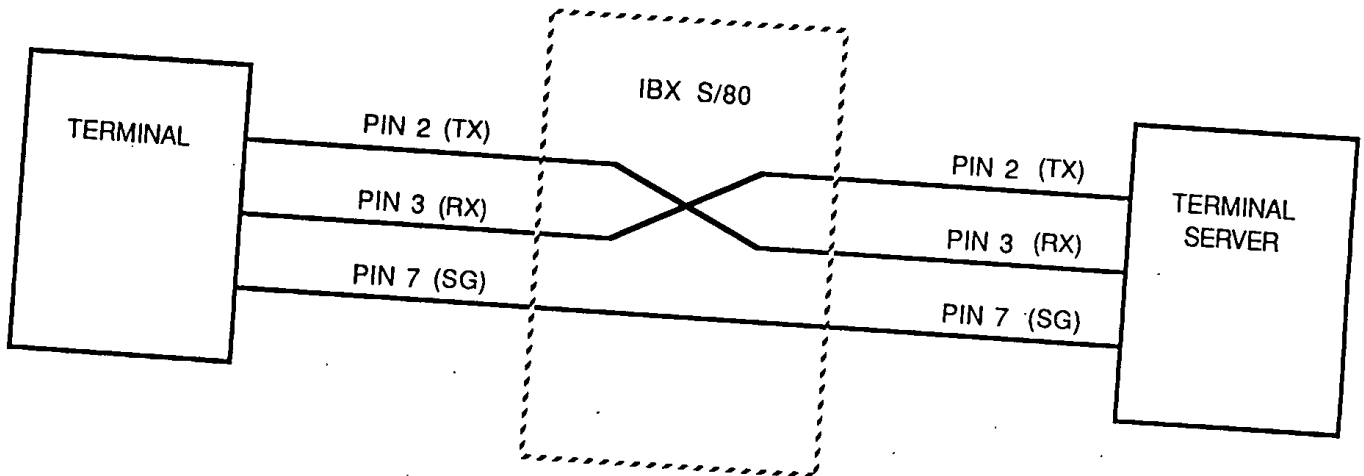


3 WIRE DIAL-UP CKTS

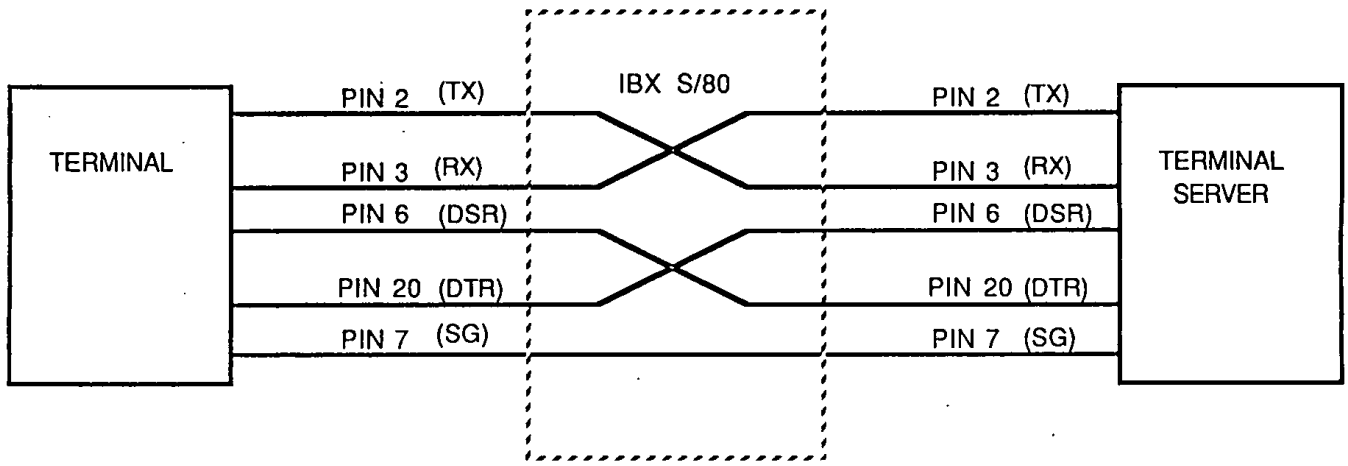


NOTE:
REPRESENTS THE CONNECTION POINT
WHERE A DIAL-UP DATA CALL IS CONNECTED
OR DISCONNECTED

3 WIRE NAILED CKTS



MODEM CONTROL NAILED CKTS



Action Item Status Report

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Attachment G
Page 1

ACTION ITEM #	ORIGIN and DATE	ACTION ITEM/ACTIONEE/DUE DATE	STATUS DATE COMPLETED	
HCS-056	TEM 3/31/88	Forward preliminary LEC delivery schedule to CONTEL through COTR. <input type="text"/>	COMPLETE 4/27/88	4/15/88 STAT
HCS-057	TEM 3/31/88	Develop test schedule for data circuits <input type="text"/>	COMPLETE 6/29/88 Testing to start in 3rd week of July.	6/29/88 STAT
HCS-058	TEM 3/31/88	Forward full-scale drawing of DECserver rack, cabinet, and ADI mtg to CONTEL <input type="text"/>	COMPLETE 4/27/88	4/15/88 STAT
HCS-059	TEM 3/31/88	Identify ADI ports which are to support AFS printers. <input type="text"/>	COMPLETE 4/27/88	4/27/88 STAT
HCS-060	TEM 3/31/88	Forward ADI chassis to LEC. <input type="text"/>	COMPLETE 5/11/88 LEC received hardware 5/11/88.	5/11/88 STAT
HCS-061	TEM 3/31/88	Investigate whether special security arrangements are needed for Flex IM or attached circuits. <input type="text"/>	OPEN Awaiting Security response to letter from OIT.	STAT
HCS-062	TEM 3/31/88	Determine if there is sufficient room for overhead trough above ADI cabinets. <input type="text"/>	COMPLETE 4/27/88 25 pair cables will be run underfloor.	4/27/88 STAT

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Attachment G

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ACTION ITEM #	ORIGIN and DATE	ACTION ITEM/ACTIONEE/DUE DATE	STATUS DATE COMPLETED	STAT
HCS-063	TEM 3/31/88	Contact [redacted] at HQs regarding Wang circuits through shielded enclosure.	COMPLETE 4/27/88 Deferred to HCS-066.	STAT
		[redacted] 4/27/88		STAT
HCS-064	TEM 3/31/88	Investigate whether ITEs can be wall-mounted in the Data Center.	COMPLETE 5/09/88 Wall mounting brackets have been ordered.	STAT
		[redacted] 5/18/88		STAT
HCS-069	TEM 4/27/88	Identify requirements for ADI 101s to LEC and CONTEL.	COMPLETE 5/18/88 Cabinets will support 448 active ADIs, 12 spares.	STAT
		[redacted] 5/18/88		STAT
HCS-070	TEM 4/27/88	Obtain two terminals for CONTEL tests of data circuits.	OPEN Terminals will need to meet Reston zoning requirements.	STAT
		[redacted] 7/15/88		STAT
HCS-073	TEM 5/19/88	Review AFS circuit testing plans with Office of Security	COMPLETE 6/29/88	STAT
		[redacted] 6/29/88		STAT
HCS-074	TEM 5/19/88	Address AFS terminal server port distributions.	OPEN CONTEL has provided circuit configuration to AFSB. Being reviewed.	STAT
		[redacted] 7/05/88		STAT
HCS-080	TEM 6/29/88	Estimate cost for programming PBX to give each dial-up user a unique T/S port.	OPEN This is needed to prevent security problems caused by interrupted sessions.	STAT
		[redacted]		STAT

Action Item Status Report

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Attachment G

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ACTION ITEM #	ORIGIN and DATE	ACTION ITEM/ACTIONEE/DUE DATE	STATUS DATE COMPLETED
HCS-081	TEM 6/29/88	Document procedure for testing circuits with DEC Server.	OPEN Cleared personnel needed for hands-on testing.

7/18/88

STAT

HCS-082	TEM 6/29/88	Revise connectivity needs so that each dial-up user has a unique T/S port.	OPEN This is in support of Action Item HCS-080.
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7/18/88

STAT