

TO: Al Finn

CC: S. Yeager

FROM: Dan Strange

SUBJECT: Summary of Proposals in the Pipeline + List of Project Related Action Items

DATE: January 20, 1992

Section 1, shown below, is a list of all proposals currently active. Section 2 lists other project related action items.

SECTION 1 Active Proposals

1. Charles Schwab San Francisco: MFS is proposing an FDDI backbone connecting three (3) buildings 101 Montgomery, 333 Bush, and 120 Kearny. In addition we are proposing to install and maintain a network, within each building, to bring 16 Mb/s token ring (802.5), UTP, RJ45 interfaces to specified floors. MFS has installed multi-mode fiber connecting the buildings. The memo "Charles Schwab, San Francisco Network Cost" is attached.

2. BARRNET San Francisco: MFS is proposing an FDDI network to connect two (2) to six (6) buildings. Construction of laterals from a proposed new MFS fiber backbone into several of the buildings would be required. Electronic cost were calculated for both multi-mode and single mode FDDI interface. The memo "BARRNET San Francisco, FDDI Cost" is attached.

3. PG&E San Francisco: MFS is proposing a seven (7) to nine (9) node FDDI network. MFS currently has POP's in seven (7) buildings. A fiber build would be required to reach the remaining two (2) buildings. Electronic cost were calculated for one (1) ethernet (802.3) interface in each building. The demarcation point would be in the MFS POP. The memo "San Francisco PG&E Cost" is attached.

4. Chemical Bank/MHT New York: MFS is proposing a four (4) node network providing a single 802.3 and 802.5 interface per building. Electronic cost have been calculated for an FDDI and bridged TDM solution. Buildings served are 55 Water St., 10th floor, 270 Park Ave. 4th floor, 277 Park Ave. 10th floor, and 4 NY Plaza 9th floor. The customer has requested pricing for service with the demarcation point in the MFS POP and in the customer premise. The memo "Chemical Bank/MHT NY, Ethernet Token Ring Connectivity" is attached.

5. SIAC New York: MFS is proposing a five (5) node FDDI network providing a single multi-mode FDDI interface and possibly a single 802.3 interface in each of the served buildings. SIAC requires full electronic and fiber route redundancy for all sites. Electronics cost are calculated for one (1) 802.3 interface, one (1) multi-mode FDDI interface, and a combination of the interfaces in each building. The memo "Cost for SIAC NY, FDDI Network" is attached.

6. Prudential Securities New York: MFS is proposing a single point-to-point 16Mb/s 802.5 over T1. Buildings served are 1 Financial Square and 199 Water St. The memo "Prudential Securities 16 Mb/s Token Ring" is attached.

7. AMS Washington D. C.: MFS is proposing a single point-to-point 16 Mb/s 802.5 over DS3 or FDDI. The memo "AMS Washington D. C. 16 Mb/s Token Ring on TDM and FDDI" is attached.

8. NASA Washington D. C.: MFS is proposing to install and maintain an FDDI network providing IBM channel attach and 802.3 connectivity between 600 Independence Ave. and 3rd & E St. Several options are proposed. Details of these options are listed in the attached memo "NASA Washington D. C. Building Move Temporary FDDI Network, Cost for Various Options".

9. UUNET Washington D. C.: MFS is proposing a four (4) node bridged 802.3 on TDM DS3 network. Buildings served are 8400 Baltimore Blvd. D. C., 1050 Connecticut Ave. D. C., 3110 Fairview Park, Falls Church, and 1895 Preston White, Reston. The first two buildings listed are on net the latter two are not. Four (4) DS3 circuits configured as a ring would connect the served buildings. Each served building is configured with a single bridged 802.3 interface. The demarcation point is in the MFS POP. The memo "UUNET Washington D. C., Ethernet (802.3) Cost" is attached.

10. M. D. Anderson Houston: MFS is proposing a four (4) node FDDI network providing a single 802.3 interface per site. M. D. Anderson is completely off net and requires some dedicated SNMP cost. The demarcation point is the MFS POP. The memo "MD Anderson of Houston, FDDI Cost" is attached.

11. Arthur Anderson Houston: The preliminary cost memo has not yet been sent to D. Piazza/J. Stockhausen. MFS will propose to Arthur Anderson pricing to correct cable plant problems in the PNP building. In addition we will propose a new building distribution network. A meeting is scheduled with AA on 1/22/92 to go over their requirements in greater detail.

12. UBINET Chicago: MFS is proposing to supply three T1 end links between 299 Park Ave., NY and the UBINET long distance carrier. We would supply the end links for each of these circuits in the distant cities. These comprise one (1) T1 each for Chicago, Los Angeles, and Houston. Each T1 could be terminated by a T1 to 802.3 bridge/router All buildings in all cities served are on net. The memo "Union Bank Network (UBINET) Chicago, Ethernet on T1 Cost" is attached.

13. Arthur Anderson Chicago: MFS is proposing to supply repeated 802.3 connectivity between two (2) sites using TDM on DS3. The buildings served are 69 W. Washington St. and 33 W. Monroe.

SECTION 2 Other Project Related Action Items

The following items are action items not related to a specific customer.

1. Fibercom has promised to supply a new version of the Viewmaster SNMP software incorporating bug fixes and features requested by MFS. Testing is scheduled to begin Tues. 1/28/92. Fibercom will be sending one of the software developer to Houston to assist us in training and testing. I envision testing requiring at least two weeks and probably more time to complete.

2. A component of SNMP testing is frame relay testing with WilPak. A 1.0 Mb/s frame relay permanent virtual circuit PVC and a standard T1 have been established between

Houston and Kansas City. These allow MFS to send traffic through a loopback and measure performance under various network conditions.

3. We are reviewing test equipment manufacturers boxes. An additional piece of test equipment is required in Houston to support the testing requirements listed in items 1 and 2.

SECTION 2 Other Project Related Action Items (cont.)

4. A detailed plan for nationwide SNMP network configuration has not been done. Only generic cost have been calculated. How this network is implemented depends on which cities get the next firm orders.

5. A detailed plan showing how MFS will supply customers with high speed (4, 10, or 16 Mb/s) WAN connectivity is not done. Significant testing will be required to support this portion of the network.

6. On an ongoing basis we are supporting sales in cities as the need arises. Information required to support a sales prospect is assigned the highest priority.

COMPANY NAME 3110 FAIRVIEW PARK DRIVE, STE 570
 ADDRESS FALLS CHURCH, VA 22042
 CITY RICK ADAMS STATE VA ZIP 22042
 INITIATOR PRESIDENT, CEO
 TITLE 703/204-9000 FAX NO. 703/204-9001
 TELEPHONE NO. CUSTOMER PON
 CUSTOMER CKT NO

ORDER NO SUPP CUSTOMER NO
 3E
 CIRCUIT NO
 QUANTITY 1 DS 10 MFS SERVICE TYPE 10/2/92 PT TO PT HUB MULT FLEX END LINK
 ORDER DATE 10/2/92 CUST DESIRED DUE DATE
 RELATED ORDER NO HUB/RELATED CKT NO

LOCATION 1
 NAME UNNET / NAP
 STREET 2400 BACHTHOPE BLVD.
 FLOOR CARRIER COLLOCATION ROOM
 CITY COLLEGE PARK, MD ROOM ROOM ZIP
 TECHNICAL CONTACT Dusty Teich
 TELEPHONE NO. FAX NO.
 BUILDING CODE UMD LOCATION CODE 00 MUX 00

LOCATION 2
 NAME UNNET (SEE REMARKS SECTION) *
 STREET 420 G ST. NW
 FLOOR B-1 ROOM B105
 CITY WASH DC STATE DC ZIP
 TECHNICAL CONTACT Dusty Teich
 TELEPHONE NO. FAX NO.
 BUILDING CODE GMW LOCATION CODE 00 MUX 00

TERMINATING INFORMATION

DS-0
 1. 2WIRE 3WIRE 8. TRUNK (TR)
 2. LOOP START GROUND START 7. ANALOG DATA RATE K/SEC
 EAM
 3. MFS PROVIDES RING 8. DIGITAL DATA SERVICE
 NO RING PROVIDED ASYNCH SYNCH
 4. FOREIGN EXCHANGE, CLOSED (FXS) 9. DIGITAL DATA RATE K/SEC
 (AT CUST END) OPEN (FXO) 10. DIGITAL INTERFACE
 5. OFF PREMISE EXTENSION (OPX) RS-232 RS-485
 V.35 OCULDP

DS-1
 1. BEZS 2. D4
 AMI ESF
 DS-3
 1. FRAMED UNFRAMED
 OTHER
 1. E-1
 2. BROADCAST VIDEO: ONE-WAY TWO-WAY
 3. INTERCONNECT SERVICE
 4. NRMS: DEDICATED DIAL-UP ATTENDANT
 5. MULTI-MEGABIT DATA SERVICES: FDDI COMPUTER CHANNEL EXTENSION
 ETHERNET: FRACTIONAL DEDICATED VIRTUAL
 TOKEN RING: FRACTIONAL DEDICATED VIRTUAL

REMARKS *
 SERVICE CHARGES AND AVAILABILITY PENDING MFS SENIOR MANAGEMENT APPROVAL.
 ** LOCATION 2) 3110 FAIRVIEW PARK DRIVE, FALLS CHURCH
 3) 2100 BOONE BUILD. COLLEGE PARK, MD
 4) 1650 CONN. AVE. NW WASH, DC

BILLING INFORMATION
 BILL TO UNNET / NAP
 ADDRESS
 CITY 3 YEARS (EXPIRES PROPOSAL 9/29/95) STATE ZIP
 LENGTH OF CONTRACT MONTH(S) YEAR(S)

ACCOUNTS PAYABLE
 BILLING CONTACT
 FLOOR ROOM TELEPHONE NO

SERVICE CHARGES *
 FACILITY CHARGES
 INITIAL SERVICE 1 @ 2,000.00 \$ 2,000.00
 ADDITIONAL SERVICE \$
 SUBTOTAL \$
 EQUIPMENT CHARGES
 TYPE \$
 TYPE \$
 SUBTOTAL \$
 SPECIAL FEES & EXPEDITING COSTS \$
 OTHER SPECIAL CHARGES \$
 TOTAL NON-RECURRING CHARGES \$ 2,000.00

NON-RECURRING CHARGES
 FACILITY CHARGES
 INITIAL SERVICE 1 @ 2,000.00 \$ 2,000.00
 ADDITIONAL SERVICE \$
 SUBTOTAL \$
 EQUIPMENT CHARGES
 TYPE \$
 TYPE \$
 SUBTOTAL \$
 SPECIAL FEES & EXPEDITING COSTS \$
 OTHER SPECIAL CHARGES \$
 TOTAL RECURRING CHARGES \$ 2,000.00

CUSTOMER APPROVAL SIGNATURE TITLE DATE

FOR MFS INTERNAL USE ONLY
 Account Executive: Kathleen P. Davis DATE: 9/29/92
 Account Executive: _____ DATE: _____
 Account Executive: _____ DATE: _____
 City Director Approval: [Signature] DATE: 9/30/92
 Operations Approval: [Signature] DATE: 9/30/92

SALES SOURCE CODE CITY NAM NAMB NAMC OCC OCCC CORP CARRIER INFO OTHER LDA ATTACHED YES NO ACR YLS NU

COMPANY NAME 3110 FRIEDMAN PARK DRIVE, STE 570
 ADDRESS FALLS CHURCH, VA 22042
 CITY RICK ADAMS STATE VA ZIP 22042
 INITIATOR PROSIDENT, COO
 TITLE 703/204-8800 FAX NO 703/204-8001
 TELEPHONE NO
 CUSTOMER POB
 CUSTOMER CRT NO

ORDER NO _____ SUPP _____ CUSTOMER NO _____
 ORDER NO 3E JES _____ JAS _____
 CIRCULAR NO _____
 QUANTITY 1 DS 10 DS SERVICE TYPE _____ PT TO PT _____ MUX _____ MUX 92 _____ FLEE _____ END LINE _____
 ORDER DATE _____ CUST DESIRED DATE 9/21/92
 RELATED ORDER NO _____ MIB/RELATED CRT NO _____

LOCATION 1
 NAME UNNET (NAP) ~~Blair~~
 STREET 1050 Canal Ave NW
 FLOOR CARRIOR COLLOCATION Room ROOM _____
 CITY WASHINGTON, DC STATE _____ ZIP _____
 TECHNICAL CONTACT DUTY TECH
 TELEPHONE NO _____ FAX NO _____
 BUILDING CODE GTE LOCATION CODE _____ MUX _____

LOCATION 2
 NAME UNNET (SEE REMARKS SECTION) *
 STREET 1120 G St. NW
 FLOOR B-1 ROOM B105
 CITY WASH DC STATE _____ ZIP _____
 TECHNICAL CONTACT DUTY TECH
 TELEPHONE NO _____ FAX NO _____
 BUILDING CODE SNW LOCATION CODE _____ MUX _____

TERMINATING INFORMATION

DS-0
 1. TWIRE TWIRE 8. THE LINE (TL)
 2. LOOP START GROUND START 7. ANALOG DATA RATE _____ K/PM
 EN
 3. MFS PROVIDES RING 8. DIGITAL DATA SERVICE
 NO RING PROVIDED ASYNCH SYNCH
 4. FOREIGN EXCHANGE CLOSED (FXS) 9. DIGITAL DATA RATE _____ K/PM
 LAT CUST ENDS OPEN (FXOI) 10. DIGITAL INTERFACE
 5. OFF PREMISE EXTENSION (OPX) RS-232 RS-485
 V.36 OCU-OP

DS-1
 1. BBSZ 2. DM
 AMI ESF
 DS-3
 1. FRAMED UNFRAMED

OTHER
 1. E-1
 2. BROADCAST VIDEO: ONE-WAY TWO-WAY
 3. INTERCONNECT SERVICE
 4. NRMS: DEDICATED DIAL-UP AFTERGATE
 5. MULTI-MEGABIT DATA SERVICES: FDDI COMPUTER CHANNEL EXTENSION
 ETHERNET: FRACTIONAL DEDICATED VIRTUAL
 TOKEN RING: FRACTIONAL DEDICATED VIRTUAL

REMARKS * SERVICE CHARGES AND AVAILABILITY PENDING MFS Senior MANAGEMENT APPROVAL.
 ** LOCATION 2) 8400 BALTIMORE BLVD. COLLEGE PARK, MD
3) 8100 BOONER BLVD. VIBONNA, VA
4) 3110 FRIEDMAN PARK DR., FALLS CHURCH, VA 1 NAP L for

BILLING INFOR
 BILL TO UNNET, INC. NAD
 ADDRESS 3110 FRIEDMAN PARK DRIVE
 CITY FALLS CHURCH STATE VA ZIP _____
 LENGTH OF CONTRACT MONTH(S) _____ YEAR(S)

BILLING CONTACT
 FLOOR _____ ROOM _____ TELEPHONE NO. _____

SERVICE CHARGES *		NON-RECURRING CHARGES		RECURRING CHARGES	
FACILITY CHARGES					
INITIAL SERVICE	<u>1</u> @ <u>2,000.00</u>	<u>2,000.00</u>	FACILITY CHARGES	<u>1</u> @ <u>2,000.00</u>	<u>2,000.00</u>
ADDITIONAL SERVICE	_____ @ _____	_____	ADDITIONAL SERVICE	_____ @ _____	_____
SUBTOTAL		\$ _____	SUBTOTAL		\$ _____
EQUIPMENT CHARGES					
TYPE _____	_____ @ _____	_____	TYPE _____	_____ @ _____	_____
TYPE _____	_____ @ _____	_____	TYPE _____	_____ @ _____	_____
SUBTOTAL		\$ _____	SUBTOTAL		\$ _____
SPECIAL FEES & EXPEDITING COSTS					
OTHER SPECIAL CHARGES	_____ @ _____	_____	OTHER SPECIAL CHARGES	_____ @ _____	_____
TOTAL NON-RECURRING CHARGES		\$ <u>2,000.00</u>	TOTAL RECURRING CHARGES		\$ <u>2,000.00</u>

CUSTOMER APPROVAL SIGNATURE _____ TITLE _____ DATE _____
 FOR MFS INTERNAL USE ONLY
Kathleen P. Davis 9/29/92 DATE
 Major Account Executive
 ACCOUNT EXECUTIVE _____ DATE _____
 SALES SOURCE CODE CITY NAM NAME NAME OCC OCC CORP CARVER INFO OTHER LOA ATTACHED YES NO ASR YES NO

COMPANY NAME 3110 FAIRVIEW PARK DRIVE, STE. 570
 ADDRESS FALLS CHURCH, VA 22042
 CITY FALLS CHURCH STATE VA ZIP 22042
 INITIATOR LUCK ADAMS
 TITLE PROSIDENT, C50
 TELEPHONE NO 703/204-9000 FAX NO 703/204-9001
 CUSTOMER PON _____
 CUSTOMER CKT NO _____

CARDER NO _____ SUPP _____ CUSTOMER NO _____
 3E _____ JES _____ JAS _____
 CIRCUT NO _____
 QUANTITY 1 DS 10 Mbps SERVICE TYPE _____
 PT TO PT _____ HUB _____ MULT _____ FLEX _____ END LINK _____
 ORDER DATE _____ CUST DESIRED DUE DATE 10/30/92
 RELATED ORDER NO _____ HUB/RELATED CKT NO _____

LOCATION 1
 NAME UNNET
 STREET 8100 Boone Blvd.
 FLOOR CALCULC CALL CENTER ROOM ROOM _____
 CITY VIENNA, VA STATE VA ZIP _____
 TECHNICAL CONTACT DARYL BOETT
 TELEPHONE NO _____ FAX NO _____
 BUILDING CODE 811B LOCATION CODE _____ MUX _____

LOCATION 2
 NAME UNNET (SAR ROBERTS SECTION)
 STREET 1120 G St. NW
 FLOOR B-1 ROOM 8105
 CITY WASH DC STATE DC ZIP _____
 TECHNICAL CONTACT DARYL BOETT
 TELEPHONE NO _____ FAX NO _____
 BUILDING CODE 811B LOCATION CODE _____ MUX _____

TERMINATING INFORMATION

DS-0
 1. 2WIRE 4WIRE
 2. LOOP START GROUND START
 3. MFS PROVIDES RING NO RING PROVIDED
 4. FOREIGN EXCHANGE CLOSED (FES) SAT CUST ENH: OPEN (FEO)
 5. OFF PREMISE EXTENSION (OPE)
 6. TR LINE (TL)
 7. ANALOG DATA RATE _____ K/Sec
 8. DIGITAL DATA SERVICE ASYNCH SYNCH
 9. DIGITAL DATA RATE _____ K/Sec
 10. DIGITAL INTERFACE RS-232 RS-485 V.36 OCU-OP

DS-1
 1. BAZS 2. D4
 AMI ESF
 DS-3
 1. FRAMED UNFRAMED
 OTHER
 1. E-1
 2. BROADCAST VIDEO ONE-WAY TWO-WAY
 3. INTERCONNECT SERVICE
 4. NRMS: DEDICATED DIAL-UP ATTENDANT
 5. MULTI-MEGABIT DATA SERVICES: FDDI COMPUTER CHANNEL EXTENSION
 ETHERNET: FRACTIONAL DEDICATED VIRTUAL
 TOKEN RING: FRACTIONAL DEDICATED VIRTUAL

REMARKS *
 SERVICE CHARGES AND AVAILABILITY PENDING MFS SERVICE MANAGEMENT APPROVAL
 ** LOCATION 2) 3110 FAIRVIEW PARK DRIVE, FALLS CHURCH, VA
 3) 8400 BALTIMORE BLVD, COLLEGE PARK, MD
 4) 1050 CONN AVE. NW WASH DC

BILLING INFORMATION
 BILL TO UNNET/INTERNAL
 ADDRESS _____
 CITY VIENNA VA STATE VA ZIP _____
 LENGTH OF CONTRACT _____ MONTH(S) YEAR(S)

ACCOUNTS PAYABLE
 BILLING CONTACT _____
 FLOOR _____ ROOM _____ TELEPHONE NO. _____

SERVICE CHARGES *		NON-RECURRING CHARGES	
FACILITY CHARGES		FACILITY CHARGES	
INITIAL SERVICE	1 @ 2,000.00 = 2,000.00	INITIAL SERVICE	1 @ 2,000.00 = 2,000.00
ADDITIONAL SERVICE	_____ @ _____ = _____	ADDITIONAL SERVICE	_____ @ _____ = _____
	SUBTOTAL \$ _____		SUBTOTAL \$ _____
EQUIPMENT CHARGES		EQUIPMENT CHARGES	
TYPE _____	_____ @ _____ = _____	TYPE _____	_____ @ _____ = _____
TYPE _____	_____ @ _____ = _____	TYPE _____	_____ @ _____ = _____
	SUBTOTAL \$ _____		SUBTOTAL \$ _____
SPECIAL FEES & EXPEDITING COSTS	_____ @ _____ = _____	SPECIAL FEES & EXPEDITING COSTS	_____ @ _____ = _____
OTHER SPECIAL CHARGES	_____ @ _____ = _____	OTHER SPECIAL CHARGES	_____ @ _____ = _____
TOTAL NON-RECURRING CHARGES	\$ 2,000.00	TOTAL RECURRING CHARGES	\$ 2,000.00

RECURRING CHARGES	
FACILITY CHARGES	
INITIAL SERVICE	1 @ 2,000.00 = 2,000.00
ADDITIONAL SERVICE	_____ @ _____ = _____
	SUBTOTAL \$ _____
EQUIPMENT CHARGES	
TYPE _____	_____ @ _____ = _____
TYPE _____	_____ @ _____ = _____
	SUBTOTAL \$ _____
SPECIAL FEES & EXPEDITING COSTS	_____ @ _____ = _____
OTHER SPECIAL CHARGES	_____ @ _____ = _____
TOTAL RECURRING CHARGES	\$ 2,000.00

CUSTOMER APPROVAL _____ SIGNATURE _____ TITLE _____ DATE _____

FOR MFS INTERNAL USE ONLY
 _____ 9/29/92 _____ DATE _____
 _____ ACCOUNT EXECUTIVE _____ DATE _____
 _____ ACCOUNT EXECUTIVE _____ DATE _____
 _____ CITY DIRECTOR APPROVAL _____ DATE _____
 _____ OPERATIONS APPROVAL _____ DATE _____

SALES SOURCE CODE CITY NAM NAMB NAMC OCC OCCC COMP CARRIER INFO OTHER LGA ATTACHED YES NO ASP YES NO