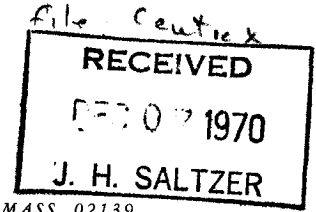


INTERDEPARTMENTAL

MASSACHUSETTS INSTITUTE OF TECHNOLOGY CAMBRIDGE, MASS. 02139



from the office of Telecommunications

December 4, 1970

To: J. Saltzer

Subject: Data Switch

Reference: Your memo of December 1, 1970

Your recommendations concerning the reconfiguration of the M.I.T. data switch are interesting. Let me make several observations:

(1) CENTREX affords M.I.T. savings in money and space as compared to a standard switch, such as our present data switch (which, as you know, is a step-by-step (S x S) WE 701 dial PBX). Specifically - using your own calculations for a proposed WE 701 dial PBX dedicated to data:

<u>WE 701 PBX</u>	<u>Monthly Charge</u>
300 line finders @ \$4.00 ea.	\$ 1,200.00
300 first selectors @ \$4.00 ea.	1,200.00
300 second selectors @ \$4.00 ea.	1,200.00
Power supply	90.00
1 Trunk line (for billing purposes)	11.00
900 terminals @ \$2.25 ea.	<u>2,025.00</u>
	<u>\$ 5,726.00 *</u>

* Plus appropriate charges for tie-lines to the main M.I.T. system, ports, etc.

<u>CENTREX</u>	<u>Monthly Charge</u>
900 terminals @ \$3.25 ea. (rate used is for a terminal that is to be used for data only)	<u>\$ 2,925.00 *</u>

* Plus appropriate charges for ports. There would be no tie-lines, and other charges that will accrue to a WE 701 PBX system.

In addition, under CENTREX - there is zero (0) space assigned to data switch equipment. Under your proposal, a space of 20' x 35' (minimum) would have to be assigned to the data switch equipment. If we assume a \$4.00 per sq. ft. charge for space, your proposal would cost M.I.T. \$2,800.00 per year for space; whereas, with CENTREX there is no cost.

(2) Going further, with the matter of space, I am relinquishing my space in building 10 in 1972. The tentative space assigned to me in 1972 does not have provision for a dedicated data switch. Therefore, space would have to be found elsewhere; possibly in IPC. Do they have space? In addition, it should be noted that your proposed configuration would require 1/5th more space than has been assigned to the CENTREX operation (3500 sq. ft. has been assigned) and, the 3500 sq. ft. is primarily for operators and working staff personnel - not for equipment.

(3) By using Tuck equipment we save \$21.00 per month (in lieu of Bell 103E data sets at \$25.00 per month less \$4.00 per DCU). Therefore, our savings by using Tuck is far greater than your note indicates.

(4) The Bell System (in this instance, New England Telephone Co.) only provides 11 foot racks in central office (C.O.) installations. A PBX is not treated as a C.O., and would have 8' x 6" frames. For your information, I know of no PBX (NET provided) with 11' frames. This matter has been discussed many times with NET by this office, and always rejected.

(5) We are accustomed to having a switchman on our premises to service our PBX's (the main and data switches). However, we will not have a switchman on our premises after mid-'72, when we go CENTREX. Therefore, by maintaining a separate data switch, we would see a degradation in maintenance service in that such a switch would be unattended.

(6) The continuation of a S x S switch for data has been discussed with NET and AT&T personnel on a number of occasions. These Bell representatives all agreed that this would not be desirable. In fact, the only alternative to CENTREX (No. 1 ESS) that they offered was DATREX. I won't say more about DATREX. For your information, AT&T does have a stated policy in regards to S x S equipment in regards to C.O. applications, which is to gradually remove them from operation. If I recall correctly, the year 2,000 is the target date for all C.O.'s to be ESS. The same attitude applies to PBX installations.

At your convenience, I would like to outline to you the CENTREX configuration we will have in 1972. The configuration will allow for optimal use

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of the CENTREX (No. 1 ESS) system by voice and data users, without either group contending for services.


M. Berlan

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ew