

ORD-1601-76

6 August 1976

MEMORANDUM FOR: Bus Communications Working Group

SUBJECT: Working Group Meeting - 29 July 1976

Attendees:

CRS:

ISG:

OC :

ODP:

ORD:

OS :

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1. On 29 July 1976 the Bus Communications Working Group met to discuss the following topics:

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a. D/OC, D/ODP Views on Bus Communications Project -
On 27 July 1976, [REDACTED] briefed the Directors of Communications, Data Processing, and Research & Development on the status of the ORD Bus Communications project. Then he presented a management plan for implementation of a testbed bus system. During the ensuing discussion, D/OC stated his position, which is believed to be as follows: the current and projected growth of the communications requirements for general-purpose time-sharing and computing for general-purpose time-sharing and computing by ODP can be satisfied by conventional technology. Any system based on newer technology, such as a cable-based bus system, should be designed around the primary application, in this case believed to be SAFE. The responsibility for such design and development should reside in the SAFE program office. OC would administer and maintain the designed system. If properly designed, the communication system should be capable of satisfying the other requirements.

SUBJECT: Working Group Meeting - 29 July 1976

In light of the OC position, ORD plans to meet with SAFE management to discuss R&D support of a SAFE communications system.

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b. Status of OC [redacted] Data Requirements Study - [redacted] has discussed the current grid situation with [redacted] and has decided to let a contract during the TQ to study the current Headquarters grid. The study will attempt to quantify the current traffic load on the grid and how much more traffic the grid is capable of handling. It will also address the question of when overflow of grid capacity is anticipated and will take into consideration any modifications to the current system to handle higher loads.

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c. Status of ORD Terminal/Computer Bus Study - [redacted] reported on the status of the ORD contract with [redacted]. The first task of analyzing the trade-off of various contention alternatives is completed, and the report is due shortly. The primary conclusion of this task is that the use of adaptive re-transmission delay should significantly improve performance on a digital bus. [redacted] is currently looking at tech control of the bus and has begun design work on the contention and cluster bus interface units (BIU). The complete functional specifications of these BIU's should be available on 1 October 1976.

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d. Status of SAFE Communications Design - [redacted] reported that there is no SAFE communications design yet since the SAFE project has only recently received funding approval. Concerning the draft RFP for a communications study which [redacted] had put together a few months ago, he has not had a chance to review it recently. However, he believes that [redacted] has accomplished approximately half of the tasking listed in that draft. [redacted] stated that

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SUBJECT: Working Group Meeting - 29 July 1976

STATINTL e. Status of [redacted] and ISG Requirements for
STATINTL Remote Document Display - [redacted] reported that STATINTL
[redacted] is in the process of firming up requirements.
Finances dictate the extent to which the requirements
are satisfied. For example, the number of stations in
the system depend a lot on individual terminal capability.
Currently his thinking is that approximately 50-60 remote
STATINTL terminal locations seem to be appropriate. After establishing
STATINTL the requirements for [redacted] he will be able to levy more
STATINTL precise requirements on OC. In response to a question
STATINTL from [redacted] stated that remote document
display includes either hard copy or soft copy terminals
at this point. [redacted] volunteered to provide a 10-12
STATINTL page write-up on the state of hard copy remote document
display technology [redacted] stated that
there probably will be no firm requirements for wideband
communications from ISG in the next 3-5 years. The remote
document viewing capability is currently being looked
at for a post-1980 time frame by ISG.

STATINTL f. Status of ORD Display Resolution Study - [redacted] TINTL
STATINTL [redacted] reported on the status of the display resolution
study being performed [redacted] INTL
[redacted]. In early CY 76 the Bus Working
Group agreed that display resolution was an extremely
STATINTL critical parameter affecting much of the document viewing
STATINTL system design. [redacted] was retained to perform this work
and on 9 June presented their experimental plan to
[redacted]. The plan was
approved unanimously and instruction given to [redacted] STATINTL
to proceed with the experiment. Study 1 which will begin
in early September will fix a number of the display para-
meters. Study 2 will address the display resolution
problem directly. Consideration is being given to doing
Study 2 within Headquarters Bldg. This will cost approxi-
mately \$2,500 more, will require a room approximately
10 x 10, and will require the services of 48 analysts
for approximately 1 hour each. [redacted] will arrange STATINTL
STATINTL the room and the analyst subjects. [redacted] is arranging
for a microfiche viewing system to be available for STATINTL
comparison during the demonstration phase when the [redacted]
equipment is in Headquarters Bldg. The working group
discussed the possibility of including a storage tube

SUBJECT: Working Group Meeting - 29 July 1976

STATINTL

display in the demonstration for comparison purposes. [REDACTED] firmly believe that the low brightness level of the storage tube under normal office lighting conditions rules out such a device. It was agreed that the storage tube should only be demonstrated if it can be done for a reasonable cost and effort. Otherwise, it should not even be considered.

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g. Development Plan Outline - [REDACTED] stated in view of the OC position there no longer exists a need to produce a development plan for bus communications by the working group. Such a plan is still important and should be produced under SAFE direction. [REDACTED] and [REDACTED] stated that there has not been enough time to consider such a plan as yet.

2. Another meeting of the Bus Communications Working Group will be convened in approximately one month. Subgroup meetings will be called as necessary to discuss display resolution or digital communications issues.

[REDACTED] INTL
Data Processing Research
Office of Research and Development