

Interviews for the Wireless Network Access Project @ STScI

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PERSONNEL INTERVIEWED

The individuals interviewed represented a range of background and expertise at the Institute, but most were drawn from the scientific and technical staff. The most informative responses were given by individuals who are involved in new instrumentation or in new or ongoing software development.

INTERVIEW METHOD

The interviews were very short, ~10 minute, conversations with each interviewee. The interview takes the form of an informal discussion. The interview questions are used not to stimulate a “Question and Answer” interchange, but rather to guide the dialog into relevant areas.

FINDINGS

GENERAL

In general, interviewees were in favor of wireless network access implementation at STScI. Most interviewees expected connectivity to be good in meeting rooms and offices and the level of security to be commensurate with the wired network in place. Potential users expect the connection to be at a reasonably high speed. Interviewees expect the connections to be contiguous and reliable.

Science users felt that wireless network access would help more in their functional duties than for research except for those scientists who are members of large collaborative groups – where meetings rather than one-on-one interactions are common for accomplishing tasks.

Interviewees, especially technical staff, felt they would be more inclined to take their mobile computing to colleague’s offices if wireless network connectivity was available. The purpose would be to have access to pertinent information and data required for functional or research work. Interviewees felt the work culture would change, improve, and result in greater productivity.

Interviewees would be pleased for CISD to specify a standard system, but wish CISD to be supportive of new technology. Users are concerned about equipment becoming obsolete too quickly. Science users are wary that STScI not be entirely locked down behind a firewall and view open systems are being conducive to the scientific research STScI is required to support.

Many interviewees had experience with wireless either at home, at GSFC or in other environments. All of those individuals with experience were very favorably impressed. Some users would be delighted if the wireless facility here was compatible with home systems.

MEETINGS

Interviewees who attend meetings regularly would use wireless access to improve the efficiency of their work at meetings. Many of these individuals bring some mobile computing with them to meetings now. Others would start to bring laptops or other mobile devices to meetings if they could easily retain connectivity between office and meeting room. Interviewees know there is network access in the board room but find plugging/unplugging connections cumbersome. Interviewees expect to have connectivity in all meeting rooms in the future.

Many individuals remarked that having the ability to view documents as a group, access web-based information, data (such as from the archive or test data from instruments) is invaluable. They felt that this would greatly improve productivity at meetings and save time for meeting preparation (no need to provide unnecessary hard copy of all materials to be used at the meeting). Many individuals had the experience on telecons in which ready access to documents between participants in real time, including emailing information back and forth during the meeting would improve productivity.

Interviewees felt that meetings could evolve from essentially status reporting and planning to actually accomplishing tasks if connectivity were readily available. Attendees could collectively view materials and interact in real time to develop, change, comment on, and other actions that would allow tasks to be completed promptly.

- Contiguous connectivity office to meeting room
- High speed access expected
- Improve productivity
- Reduce need for hard copies
- Evolve meetings to working interactions where tasks are accomplished *in situ*
- Eliminate necessity to plug/unplug when migrating to different physical locations

Meetings: TAC, etc.

STScI is responsible for numerous community meetings that involve external scientists and other individuals from the community. In the case of the HST TAC or other review panels, STScI staff need to migrate computing equipment between rooms over a week to 10 day period. In addition, numerous training sessions are scheduled in various locations. Wireless would facilitate these processes greatly.

In addition, individuals experienced with the TAC and other panel reviews felt that even if the meetings are held offsite. Developing a capability to have a small mobile hub that we can outfit at a hotel with access to STScI would make review support much easier for staff.

VISITORS

Science interviewees in particular are interested in allowing visitors to have some wireless access either by registration or by a “kit” that STScI provides. Scientists feel that since visitors are transient and often move around in the building quite a lot (they are not always guaranteed a specific office for their entire visit), wireless would improve visitor integration into STScI for the

short time they are here. Improved visitor productivity translates to improved staff productivity. Scientists would not have to be working on swapping connections with visitors, and some scientists would be more easily able to accommodate a visitor in their own office if the network connection was not an issue.

Interviewees realized that visitors who are not assigned office space (TAC, committees, NASA personnel, etc.) would be able to work in meeting rooms, the cafeteria or the library without needing a hard connection to the network. This again would improve productivity and lessen the impact on staff – scrambling to support those visitor’s need to find a reliable connection.

Short term visitors often need access to collaborators data and need to do file exchange with staff members. Wireless would facilitate such collaborative work.

- Visitor productivity would be increased
- Staff productivity (especially for scientists) would be increased as an indirect result
- STScI provide visitors with a standard kit or allow registration
- Improve visitor mobility and improve ease of support to visitors

SCIENCE RESEARCH

Scientists who are involved in fairly collaborations with more than a few people feel that contiguous connectivity improves scientific dialog and the research environment, providing ready access to the requisite data, images, ancillary information, publications, websites and other resources. Extension of the wireless capability to Bloomberg would be valuable for these individuals since many scientific colleagues are located there.

Science users are concerned that wireless will work with Linux.

- Improve scientific research environment and productivity through ready, consistent access to data, publications, information, websites, etc.
- Linux compatibility
- Access at Bloomberg
- Improve mobility (office to office, office to meeting room)

FUNCTIONAL WORK

Interviewees, both scientists and technical staff, would appreciate a wireless network access to improve the content of meetings, improve access to necessary data and especially documents, and would encourage staff to bring their laptops to their team member’s offices to do work.

Quite a few staff members, especially scientists, are involved in work with GSFC (e.g., COS, ACS, NICMOS, etc.) where mobility between sites is important. All the commentary above on meetings applies here as well. Instrument teams are always required to review content together.

Several software developers expressed that they routinely do the bulk of their work on laptops, but need access to networked facilities to accomplish their work. They transport their laptops to other offices or to meeting rooms and currently use hard connections for continuing work.

PRESENTATIONS

Currently many staff member avoid relying on network connectivity for presentations because they cannot be assured that the connection will work in the assigned meeting room or that the meeting room does not have a connection available.

Staff would begin to incorporate network access to demonstrate development systems, the functionality of information services, display data, run demonstrations, etc. if wireless network access was available and reliable. They felt that this was superior than asking their audience to “go back to your office and try this program or access this web page”. Wireless would facilitate presentation of our resources to our external committees, NASA personnel, and VIP visitors if it was reliable. Scientists would begin to rely on access when presenting scientific data during research presentations (and public presentations).

LAB FACILITIES

Individuals responsible or using lab facilities regularly need the ability to move computing equipment around the facility without dragging cables. Hard connections are inconvenient, and in some respects are dangerous in a lab environment, incurring liability for the institution. Lab managers felt that wireless would be as secure or more so for their facility. Note that new lab spaces will be created (in addition to meeting rooms) in the future, especially in the new building.

GSFC

Interviewees who work at Goddard would definitely benefit from the ability to connect to the wireless network there. Some of these individuals already use the wireless capability there and find it easy to use and that it makes logistics simple when traveling to meetings or working on collaborations there. Considerable time is saved by eliminating the necessity for STScI staff to find hardwired network connections at GSFC. Time spent waiting in between meetings can be productively spent reading email from STScI, preparing documents etc.

During meetings and collaborative efforts STScI personnel often have a necessity to access data, images and documents. Examples include data characterization information for instruments, designs, specifications, etc. that are not all carried on the mobile laptop. Access to this information is invaluable. Not all meeting rooms are set up to accommodate several wired connections, and so the wireless capability is important. Users will want STScI wireless equipment to be compatible with GSFC.

STAFF MOBILITY

Some interviewee (managers) appreciated that staff mobility and flexibility in work area assignments could be facilitated through implementation of wireless networking. They felt that in the end, a wider implementation of wireless capability would help decrease the cost of moving personnel, renovation, and rearrangements of facilities. One manager suggested “hot seating” staff with different schedules as long as each individual had mobile computing facilities rather than desktop systems. Note that many technical staff rely heavily on laptops while scientists do require desktop scientific research workstations, so “one size” does not fit all staff.

NEW BUILDING

Interviewees expressed a desire that the new building be able to accommodate wireless more extensively but also be planned to accommodate more mobile computing and adaptable to new technologies of the future.

SECURITY AND POLICIES

Interviewees who had pondered these questions desire that the wireless capability be as secure as the wired network. Users expect the wireless system to be outside the firewall. Users expect that there will be a standard configuration, would like the systems to be compatible with Bloomberg and GSFC, and would like, secondarily compatibility with affordable personal systems.

Interviewees were in favor of a rational policy that allows visitors to use some sort of wireless capability.

EXPERIENCE

Quite a few users have a very positive experience using wireless technology at home. Some interviewees had experience at GSFC, again positive and improving in time efficiency and productivity. Several persons had experience with the existing wireless hardware already scattered around the Institute and were mostly positive about its use.