

Particle Physics and Communications

A Personal View
Past, Present and Future

Charles Newsom
University of Iowa

First Contact!

When: 1970

How: Modem

What: IBM mainframe

Cost: Free (Donated)

Second Round

When: 1970s

How: LAN

What: PDPs

Cost: Free (Government)

Third Interaction

When: 1980s

How: Satellite, “High-Speed” Modem

What: PCs

Cost: \$10k/year + Equipment

Recent History

When: 1990s

How: ISDN

What: Dedicated video equipment

Cost: \$4k/year + Equipment

The Present

When: 2000s

How: Internet

What: Dedicated video equipment

Cost: Free + equipment

Importance to HEP

- Experiments are extremely large and involve many international groups
- Communications are improved by an order of magnitude
- The internet is also intimately connected as a data resource and for “live” email
- Virtual control rooms are rapidly becoming indispensable, especially for 24x7 operations

Near Term Wish List

- Easy Recording by the users
- Watch and listen via the web – the sooner the better
- Replace email with 2 level instant messaging
- For larger conferences a moderator would be highly useful, either by choosing which node would be “primary” or by blocking noisy connections. (I don’t mean Sheila Cisco)
- Increase the effective bandwidth 3x would improve the video. Pointers are usually “missed” since they move too quickly.

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International Videoconference Workshop

Believe it or not?

- How to deal with firewalls?
- Spam will soon threaten videoconferencing if not dealt with soon
- 3D operation for special cases (hazard areas)
- Widespread permanent camera systems with full encrypted access via the web (a better webcam)

Summary

- Most of us in HEP are fairly happy.
- We are almost where we want to be.
- Some improvements will have a significant beneficial impact and should be pursued assiduously.
- Keep up the good work!