

November 2004

White Paper on

The ACCESS GRID

Introduction

The Access Grid was initially developed by Researchers at Argonne National Laboratory (ANL) as a vital part of the next generation of communications technologies. In 1980, the Internet was considered a “tool for researchers”. Within 10 years it became an integral component of business-to-business and person-to-person communications. Until a few years ago, the Internet was a one-on-one environment. Steps had to be taken to facilitate one-to-many, many-to-one and many-to-many communications environments to really take advantage of the Internet.

The Access Grid was a major component in achieving that goal.

The Access Grid is a step beyond and away from Video Conferencing. In this White Paper we will describe a “typical” Access Grid “Node”, describe how that Node becomes part of the Grid and then describe what VIZCAN can do to help you “*Get on the Grid*”.

What is The Access Grid?

“The Access Grid is a suite of hardware and software that supports multiple group-to-group communications via high-speed networking. It provides high quality audio and real time video for interactive experiences for users at multiple sites. All the hardware is off the shelf and readily available at a reasonable cost, so that your organization can successfully set up its own Access Grid site, called a Node -- one point on a large mesh of institutional users.” (Ref. ANL)

The Access Grid provides the basis for effective: one-to-many relationships, such as could be used for distance education; many-to-one relationships, such as could be used in a political “town hall” meeting, and many-to-many relationships for such activities as virtual meetings or virtual conventions.

Typical Access Grid Node

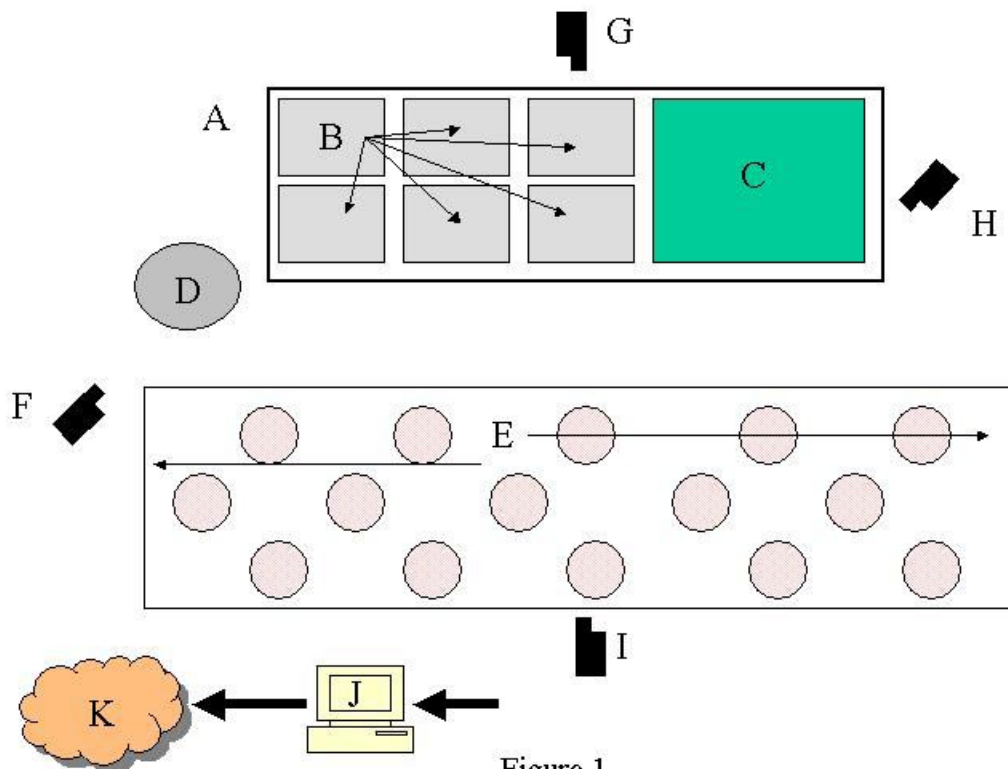


Figure 1

Legend to Figure 1:

- A Multi-image display
- B Video image (such as in video conferencing)
- B Data image (such as PowerPoint-like)
- D Lectern
- E Audience (local)
- F Lectern camera
- G Display camera
- H Audience camera for individuals
- I Audience camera for overview
- J Node control computer
- K Internet

Essentially an Access Grid Node is an assemblage of equipment which, when tied together, provides a platform for a lecturer (D) to talk to a local audience (E) and to a distance audience via cameras and a communications network (K).

In our Figure 1 example, the lecturer is interacting with a local and a remote audience(s) using a PowerPoint-like presentation. The lecturer can view the audience, either as an ensemble, and/or as individuals, on the multi-image display.

The Node is be connected via the Internet (or some other protocol) to another Access Grid node or nodes to create a network of lecturers and audience all hearing and seeing the same material and information.

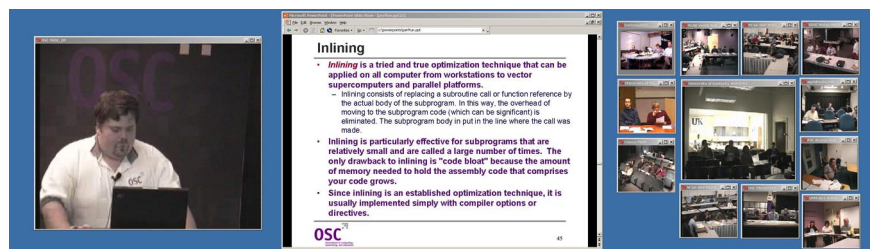
Sample images of Access Node sessions



Boston University



OHIO University



HPC Workshop with NA and European participants

What hardware would be required to built a basic Access Grid Node?

While an Access Grid Node can get very sophisticated, as basis node would consist of some minor variation of the following hardware and software:

- Four quality broadcast cameras
- Display wall with three or more bright projectors
- Up to four PC computers
- 2 Audio speakers
- 2-4 Microphones
- Keyboard/video/monitor switch
- Echo cancellation device for the audio
- Audio synchronization and leveling device
- Two telephone lines (Internet and back up)
- Access Grid Toolkit (AGTk)

What are the benefits of The Access Grid?

In the same way that the Internet brought together scientific researchers, to begin with, and, over time, many other persons together into a “community”, the Access Grid facilitates institutional, public and private sector professionals to *get together* over vast distances to, cost effectively, collaborate.

The cost of entry into the Access Grid is not high. A basic Access Grid node (hardware and software) can be designed and built for less than \$CA120,000. Communications over the Internet is very cost-effective.

What can VIZCAN do to help you with the Access Grid?

VIZCAN is uniquely positioned to help institutions and companies to “log” onto the Access Grid. The Founders of VIZCAN were one of the first to note that there is a convergence between the Advanced Visualisation and Audio Visual markets. They set about to create a company that was focussed on providing Advanced Visualisation at Affordable Prices.

The Access Grid is a perfect example of the convergence that VIZCAN sees. The Access Grid is more technology that is comfortably provided by an AV dealer but does not have a high enough price point to interest a mainstream VIZ vendor.

VIZCAN can design an Access Grid Node for you, built and equip the Node and support with experience communications and visualization specialists.

For further information or have VIZCAN help you “Get on the Grid” contact us at sales@vizcan.com.