The world of spatial imagery is another arena that is reliant upon high-end technology, capable of handling terabytes of information. GIS illustrations in turn provide educational opportunities of the highest order. This is something which Plymouth city council have realised and are already acting upon, showing an understanding of both the imaging technology available and the need to utilise the Internet as a teaching tool. The Plymouth grid for learning has been created by the Plymouth LEA and stands as an illustration of the value of the Internet to the educational fraternity. From providing a guide for parents of the areas secondary schools, through the provision of specific subject help for students and onto a listing of teaching job vacancies, the site attempts to cover all aspects of the educational world.

Ambitiously the Plymouth LEA also wanted to provide the areas students with access to some of the most advanced GIS technologies available. To make subjects such as geography come alive without leaving the classroom was the specific aim of including a GIS Mapping element within the learning grid. The applications that the GIS Mapping area of the site will house include the ability to take students on a virtual field trip; bringing locations to students as opposed to the more costly and time-consuming alternative. Students will be able to follow the journey of a river such as the Tamar, from source to mouth, examining areas of geographical and historical interest along the way. How to bring this vision to life was a major hurdle to the success of the project. To put such a project together requires GIS map data and overlays, current and historical photographic data, 360-degree stills and Video clips, along with digitized historical documents. Environment Agency river & sea-mouth data and supporting text also form part of the Internet to the educational fraternity. From providing a guide for parents of the areas secondary schools, through the provision of specific subject help for students and onto a listing of teaching job vacancies, the site attempts to cover all aspects of the educational world.

The Plymouth grid for teaching has been created by the Plymouth LEA and stands as an illustration of the value of the Internet to the educational fraternity.
such an experience. Having collated all of the necessary information there is then the problem of providing access to it. In order to allow an unlimited number of students and teachers to simultaneously view the virtual field trip, a solution had to be found that would allow fast, high-resolution access to large numbers of users.

To solve this problem the LEA have turned to the Image Web Server, as provided by Earth Resource Mapping. Using the ECW file format Plymouth found this technology to allow multiple access to files of gigabyte size, without affecting either speed or resolution. In this way a vehicle had been found to deliver the package of the virtual field trip.

The on-line trip will provide the areas teaching staff with the ability to compare one location with a similar or dissimilar one and use maps and photography to distinguish between land use patterns. It will also become possible to analyse the features and characteristics of a pupil’s own school situation and environment, looking at geography, topography, human geography, geology, history and communications.

The project will directly link graphical, textual and statistical resources that will allow classroom access to remote environments. Making these data available from a single source and on demand will render the delivery of the National Curriculum easier. The learning that results from the grid will be experiential rather than abstract and as such will give students a greater comprehension of the environments involved than could ever be provided by textbooks alone.

The project will primarily be targeted at Key Stages one to four (ages 6-13), with later expansion planned into adult education. The site will also lend itself to the independent investigative work of more able children and will provide support for those who find abstract conceptualisation difficult.

The virtual field trip and indeed the learning grid itself will stand not only as a valuable teaching aid, but also as an example to other education authorities. In exploring newly available GIS technologies, Plymouth will be able to identify learning opportunities and investigate all of the implementation difficulties, in order to provide other authorities with a guide to how to set up similar sites most effectively.

To assess the success of the initiative, enhancements in pupil achievement will be monitored as an integral part of the scheme. This will provide a clear indication of the worth of the financial investment needed to set up and then extend the site. A major element of whole initiative is to produce a summative report, based upon implementation at LEA level and use at school level. In this way it will become possible to chart improvements in student’s levels of development with the development of the learning grid. Such progress reports and indeed the virtual trip application itself are due to be in operation by the end of the year.

Plymouth City Council will be able to provide its students with an average school day that is more involving than ever before. The Plymouth site will also give the LEA the ability to serve information regarding transport systems and statistics, to graphically illustrate how transport has influenced the development of locations and provide students with an understanding of the nature and notion of routes and provide examples of mapping symbols. In this way Plymouth City Council will be able to provide its students with an average school day that is more involving than ever before.

Figure 2: Image Web Server facilitates easy access to aerial imagery.