



HIGH LEVEL HARDWARE

ORION[†] SUPERMINICOMPUTER

X Window System[‡], Version 11

Overview

The X Window System (or X), developed at MIT, has achieved widespread popularity. Like most window systems running under UNIX[§], it provides simultaneous views of concurrently executing programs on a bitmapped high resolution display. Its strength is that by separating functionality into client and server components communicating via a network protocol, an application can use windows on any display in a network in a device-independent, network transparent fashion.

Highlights

- Hierarchical overlapping windows
- Multiple processes per window or multiple windows per process
- Includes most popular windowing functions
- Local and remote windows
- Designed to support graphic and character based applications
- Extensive toolkit of C functions to interface applications with X
- Supported by over 40 manufacturers

Description

The X Window System is a tool designed at MIT to provide an environment for running distributed applications on a variety of different computers and workstations.

X Window System servers run on computers with bitmap displays. The server distributes user input to, and accepts output requests from, client programs through interprocess communication channels. Although the most common case is for the client programs to be running on the same machine as the server, clients can be run transparently from other machines (including machines with different architectures and operating systems) via a network.

X supports overlapping hierarchical subwindows and text and graphics operations. An extensive library of C functions and a number of higher level 'toolkits' simplify device independent applications development.

The core X protocol provides mechanism, not policy. Windows are manipulated (including moving, resizing, and iconifying) not by the server itself, but by a separate program called a 'window manager'. This program is simply another client and requires no special

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[‡] The X Window System is a trademark of the Massachusetts Institute of Technology.

[§] UNIX is a trademark of AT&T in the U.S.A. and other countries.

privileges. Several window managers are provided, but there is nothing to prevent the adventurous user from writing a new one. To make the tailoring of applications to personal preference easier, X supports several mechanisms for storing default values for program resources (for example background colour, window titles, etc.) These can be set both system wide or selected differently by individual users.

The X Window System is designed to support character-based applications as well as graphics applications and each window can handle text and graphics data. Existing character-based applications can be run without change, displaying their output in 'terminal emulation' windows. A user logging in on a display running X need learn nothing extra to use it as a terminal beyond moving the mouse cursor into the login window to log in normally.

Documentation

X is a large and sophisticated software system. The ORION 1/05 implementation is supported by a four volume manual set providing comprehensive documentation for both users and applications developers. To assist those unfamiliar with X to get started, a tutorial introduction guides the novice through installation, configuration, and basic system operation.

Documentation is also available on line.

Pre-requisites

The X Window System may be installed on any ORION 1/05 superminicomputer. Client programs may be run with or without a graphics subsystem installed in the machine because any machine supporting the X server and accessible via a network connection may provide the display.

To run the X server on the ORION itself, one or more StarPoint graphics subsystems may be installed within the ORION. These provide a 1280 by 1024 pixel display in either monochrome (OR-A3BW) or full colour (OR-A3COL), keyboard, and mouse.

A further alternative is to attach one or more 'X terminals' to the system via Ethernet. An X terminal consists of a bitmap display, a processor dedicated to running the X server, mouse, keyboard and Ethernet connection. All server functions are performed within the terminal, relieving the ORION host from the load normally imposed by the server. Each user gets the benefit of a personal workstation, but at significantly reduced cost. Furthermore, a single X terminal can be used to access any system available on the network and supporting X clients.

For further information on any of the above options, please contact the Sales Office.