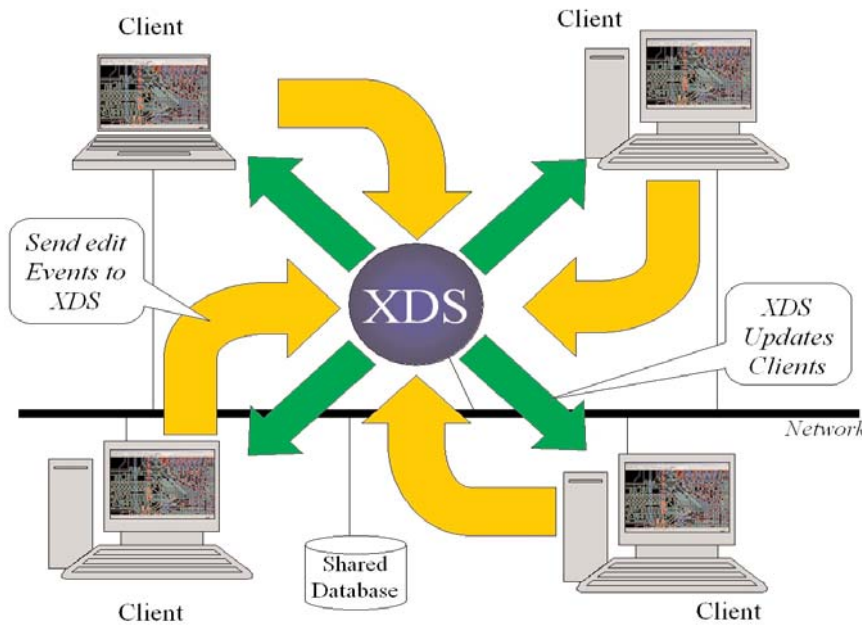


XtremePCB

Reduce Design Cycle Times

D A T A S H E E T



The Xtreme Design Session (XDS) manages all client (XDC) edits and continually sends updates to all team members. Each designer sees other design edits in real time.

Major product benefits:

- Reduce PCB layout cycle time by 40-70%
- Ideal for large, complex designs or mixed technology (digital, analog, RF) designs where technology specialists can work in parallel vs. serial
- Utilize local or globally dispersed design teams
- Manage layout and engineering resources with flexibility
- No additional training required for Board Station RE or Expedition PCB users

Time to Market is Important

In today's competitive electronics industry, getting to market ahead of your competition can mean the difference between a successful product and one that may have great technology but misses the market window. Design cycle time plays a big part in determining a product launch schedule and the PCB layout part of this process is often called upon to make up for early design phase schedule slips. Mentor Graphics has addressed this phase of the process with an exciting new product, XtremePCB™, that can reduce PCB layout cycle time by 40-70%.

XtremePCB - Powered by Xtreme Design™ Technology

XtremePCB is a revolutionary and exciting new technology that enables multiple PCB designers to work on a single design database simultaneously. Unlike traditional team design methodologies that employ a split-and-join approach to design collaboration, Xtreme requires no physical partitioning and every designer sees all other client edits in real-time. XtremePCB is available as an option with Mentor Graphics Expedition™ PCB (Pinnacle) and Board Station® RE (AutoActive). Because no further training or complex setup is required, designers can be brought in at any time and from anywhere in the world to collaborate on time-critical projects, dramatically shortening design times.

True Simultaneous Design Methodology

Xtreme Design technology, patented by Mentor, is the most significant advance in design cycle time reduction since the advent of computer aided design in the 1970's. For the first time, designers can share project workloads and maximize team efficiency through a truly simultaneous design methodology. Traditionally, designers are often pulled in from other projects to assist in meeting deadlines, usually by adopting shift work routines or physically splitting the design into multiple pieces. Both methods incur a significant overhead cost that tends to negate the advantage design collaboration brings to a project. With Xtreme, the design always stays in 'one piece' so designers can work together in a seamless, virtual-design environment, maximizing efficiency and reducing costs.

www.mentor.com/pcb

**Mentor
Graphics®**

How Xtreme Design works

This new technology employs an Xtreme Design Session manager (XDS) and multiple Xtreme Design Clients (XDC) in a networked environment. The board design can be loaded onto the XDS by any member of the design team. The session manager's primary activity is to receive update requests from each client, check them to ensure no design rule violations are made and then synchronize all clients with the updates.

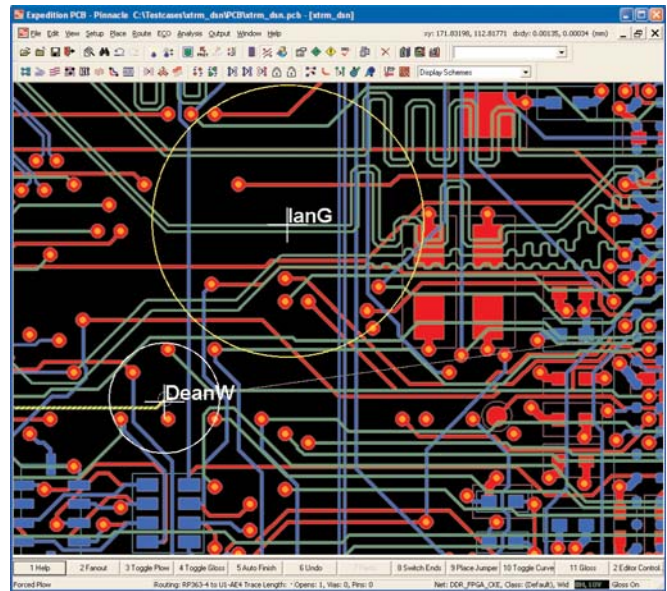
As clients join an Xtreme Design session, they provide a handle to identify them to the other users. In addition, the current state of the layout design is automatically downloaded onto the client's local desktop computer. By working on the design locally, designers can fully utilize the processing power and memory of their own workstation yet still allow them to view the entire design and witness the edits from the other clients as the server processes them in real-time.

Edit events and Resolving Conflicts

When a team member selects an object, that event is captured and sent to the server as an update request. For example, moving a component from point A to point B constitutes an event that is started with the selection of the part and ended by a mouse click indicating the new location. The edit event is sent to the server as a transaction describing what is to be deleted and what is to be added. Whenever an edit event occurs on a client, a local design rule check (DRC) is performed prior to that event being sent to the server. The request goes into an Input Message Queue with priority based on first-in-first-out principles.

There are potential conflicts that could occur when multiple designers work on the same design, but Xtreme technology manages client interaction automatically to avoid these conflicts. This allows designers the freedom to work anywhere in the design. Several methods are employed:

- **Simultaneous object/action collisions** - Design changes are automatically resolved through selection priority based on first-in-first-out principles. When a designer selects an object for editing, it becomes locked for all other clients.
- **Protected areas** - Designers may define a region to be protected, preventing other team members from making edits in that area.



Force fields can be displayed to identify individual team members and help avoid design conflicts. The more a client works in a particular area the larger the force field becomes.

- **Conflict avoidance** - Force fields can be displayed around the cursor to indicate the whereabouts of each client and prevent designers from working too close to each other. The more a designer works in an area the larger their force field becomes. As they move to a new location the force field reduces. Force fields can be enabled or disabled.

XtremePCB - Simultaneous Design Collaboration

XtremePCB provides a fully integrated and scalable design collaboration solution to meet the needs of companies demanding efficient design team utilization and faster time to market.

Minimum Hardware/Software Requirements

Pentium Processor

- Minimum: 512MB RAM (1024 recommended)
- Windows 2000 and XP Professional

Network requirements - Wired LAN

- Minimum bandwidth: 10Mb/sec switched
- Minimum latency: < 20 msec

Network requirements - Wireless LAN

- Minimum bandwidth: 10Mb/sec
- Minimum latency: < 20msec

Network requirements - WAN

- Minimum bandwidth: 1.5Mb/sec
- Minimum latency: < 250msec

For more information, visit our website at www.mentor.com/xtremepcb

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