Data Management Overview

Xpedition Enterprise

Overview
Library and design data are critical elements that need to be managed and shared to support the PCB design flow. Today’s trends have added complexity — with the need to share more information, support global design and collaboration, and provide seamless integration between engineering and external PLM/ERP systems. The Xpedition® suite of tools provides a data management infrastructure acting as a centralized data and information hub for both designs and libraries.

These tools provide standard processes out of the box — from supporting concurrent design, design reviews, and approvals at critical milestones, to library requests, archiving, and distribution. This ultimately simplifies current costly and resource-intensive integrations, reducing ongoing maintenance and administration costs.

The Xpedition solution provides both design creation/management and library creation/management tool suites, giving a complete product set for data management needs.

The Data Management Challenge
The Xpedition flow is centered on a common design and library infrastructure between librarians, engineering teams, analysis tools and experts, PCB layout, production engineering, and the manufacturing floor.

MAJOR BENEFITS:
- Provides a centralized data and information hub for both designs and libraries, shortening design time and lowering design costs
- Addresses the challenges of WIP information management and design lifecycle data management, streamlining the entire design process
- Standard-format EDX packages facilitate sharing data with external systems across the enterprise, guaranteeing full, but secure, data exchange and eliminating errors

Xpedition provides a complete data management solution supporting all critical stages of PCB design and library management.
Managing the evolving design data in this environment can be very dynamic, with the data continuously in change. Additional challenges are faced when concurrent design processes are supported, with multiple engineers working in parallel on the schematic, the constraints, and the layout.

The dynamics of an integrated, concurrent flow have proven to significantly increase productivity, but also to require integrated management of native design and library data throughout the lifecycle of the design. The complexities of this integrated data set must be clearly understood to accurately move or bundle the design data, or downstream issues can occur and data can become out of sync — leaving engineers wondering if they have the right data. Historically, this has been attempted with custom or ad-hoc interfaces that are difficult to maintain and are error-prone.

**Design Data Management with Xpedition**

Xpedition addresses both WIP information management and design lifecycle management challenges by providing a centralized environment that manages all ECAD data and facilitates collaboration amongst engineers in real-time.

Some of the built-in design data management capabilities include:

- Version management of objects, including history tracking of source data for make-from designs
- Launch and management of authoring applications
- Management of data to support baseline events; such as design reviews, including redlines and markups and automatic notifications and approvals
- Generation of manufacturing outputs from the fully synchronized design, ensuring a complete production data package from the most current design files

**The Library Management Challenge**

The Xpedition flow uses a library manager and a central library infrastructure to provide multi-tiered solutions for the creation and management of parts and part data. Companies of all sizes—from small sites that require only a single library to complex, multi-site enterprise libraries—can benefit with advanced component engineering and obsolescence management requirements.

**Sharing Data Across the Enterprise**

The Xpedition data management tools produce standard format EDX packages to facilitate sharing data with external systems across the enterprise. EDX is the Enterprise Data eXchange standard format that captures and protects EDA data in one package for secure data exchange and simplified process integration. EDX enables a robust and stable interface independent of releases and internal tool database structures.