

HCLSoftware

Get Early Visibility into Manufacturability & Product Cost



HCL **DFMPro**

Deliver High Quality Designs Faster at Lower Costs

Today organizations spend millions of dollars on Engineering Change orders (ECOs). A single ECO can cost up to \$30,000.

HCL DFMPPro, an easy-to-use CAD integrated Design-for-Manufacturing (DFM) software identifies & provides recommendations to resolve potential downstream manufacturing issues. HCL DFMPPro helps reduce time consuming design iterations resulting into faster development of high-quality products.

Product Design Challenges

Overwhelming engineering change orders
(ECO / ECN)

Product cost escalations and depleting margins

Product launch delays

Dispersed organization knowledge

HCL DFMPPro Benefits

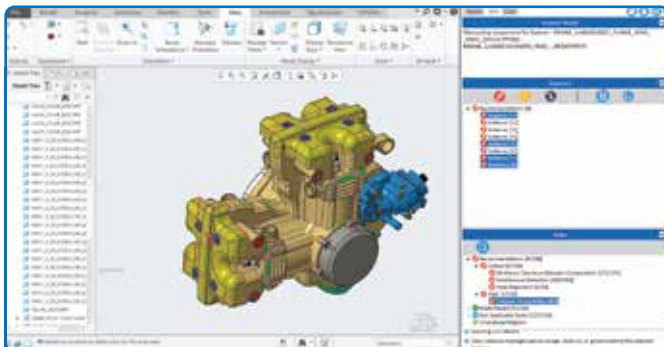
Capture design issues early and reduce
engineering rework

Understand opportunities for cost reduction right
at design stage and save cost

Avoid late stage engineering changes and
time-consuming rework

Capture best practices and bring in standardization
in design review process

Easy and Powerful DFM Software to Drive Measurable Results Fast



Automates the DFM Review Process

- DFMPPro automates and formalizes the design review process
- Seamlessly integrated inside PTC CREO Parametric™, Siemens NX™ and SOLIDWORKS®



Rule Manager

- Select and configure organization specific guidelines as design rules
- Bring in standardization in design review process

Industry Best Practices



Engineering
best practices



Supplier
capabilities



Standardization
requirements

Organization Specific Best Practices



Sourcing



Manufacturing



Service

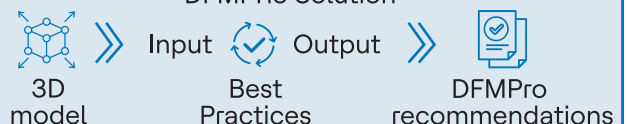
Enables Best Practice Knowledge Capture and Dissemination

- Customizable framework to capture in-house best practices, tribal knowledge and industry standards
- Facilitates continuous design improvements and knowledge retention of retiring workforce

Enterprise Systems



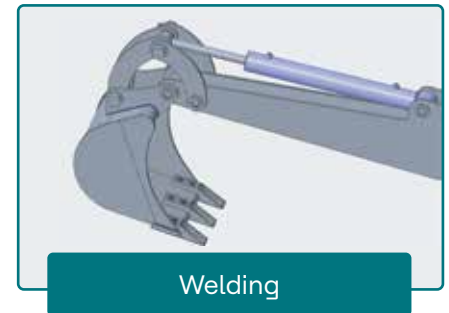
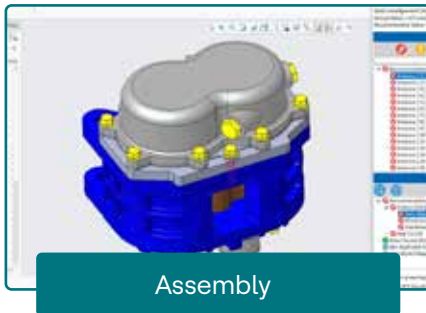
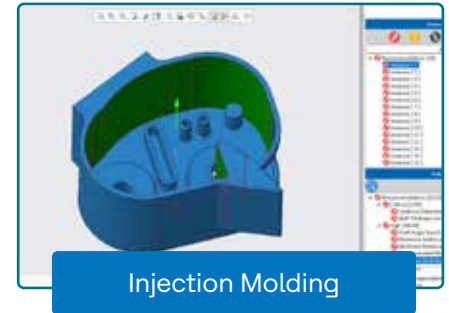
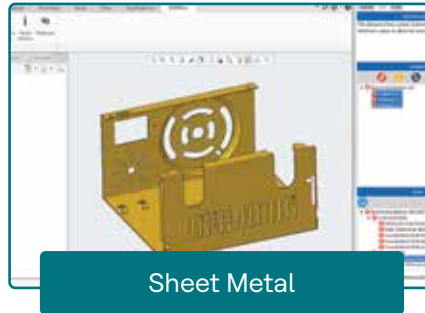
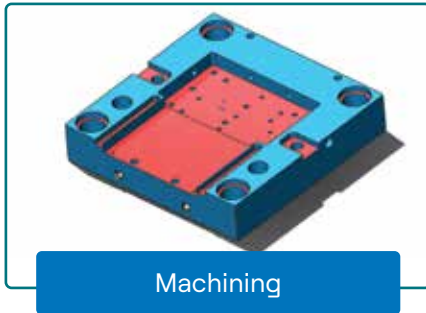
DFMPPro Solution



Easily Integrates Into Existing Enterprise Infrastructure

- Integrates easily with PLM, ERP, and MES systems
- Scalable framework for capturing and disseminating manufacturing knowledge upstream

HCL DFMPPro Supports all Manufacturing Processes



+ many more

DFX Platform

A scalable, extensible and flexible DFX framework that has collection of application, processes and technologies that are coupled with customization and support services based on customer needs.

Design Engineer



Program Manager



Management



Quality Engineer



Manufacturing Engineer



Rule Manager

DFMPPro UI Inside CAD

Reports Publisher

Cost Admin Vault (CAV)*

Analytics Dashboard*

HCL DFMPPro

Integration with CAD

Cost add-on*

Analytics Dashboard*

DFX Enterprise Platform

DFX Enterprise platform to drive design quality, reduce product cost, bring in traceability and improve time to market.

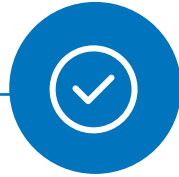
DFMPro Cost Add on

Typical Industry Challenges

- Design engineers do not have tools available with them which can provide early visibility to manufacturing and cost consequences for their design decisions
- Downstream manufacturing changes or cost issues are very expensive to handle
- 70% cost reduction opportunities are in design phase

Cost Effective Designs

Design validation



- Evaluate design choices based on material, features, geometry & manufacturing regions.
- Applying standardization and component re-use

Cost Trend Indicators



- Identify expensive design features impacting cost due to manufacturability and get recommendations for cost reduction
- Track the cost as designs are getting created

DFMPro cost add-on provides early cost visibility to design engineers right from when designs are getting created.

DFX Analytics

Enabling organizations to develop more collaborative and data driven culture



Capture the data generated by designers



Visualize the data with predefined plots



Analyze and take action



Plan effectively with supporting data



Monitor the process with live data



Identify and reduce waste

1

Improve effectiveness of DFX reviews

Track DFMPPro reviewed designs
Improve rule configurations
Quickly identify critical design issues
Track supplier reported issues

2

Ensuring DFX best practices

Learn from other design engineers
Track design performance

3

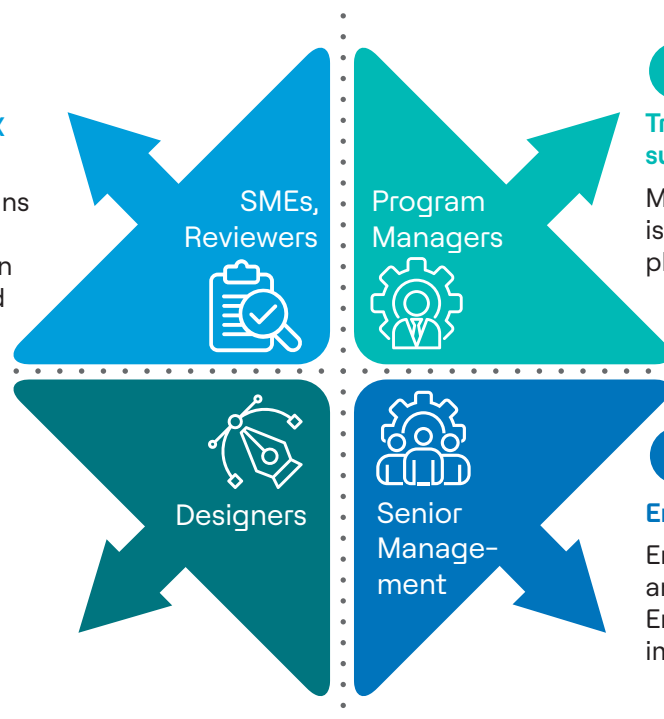
Track DFX issues for program success

Make sure that the identified DFX issues are resolved in the earlier phases of the design cycle.

4

Ensure success of DFX initiatives

Enable a continuously learning and improving DFX organization
Empower users to measure and improve DFX performance



DFX Server Solution

HCL DFX Server Solution is an extended capability of HCL DFMPPro for customers who face challenges related to rework, cost, and quality for large assemblies. With DFX Server Solution, designers can check the impact of part and sub-assembly level changes on higher modules and assemblies prior to submitting their designs in an offline mode on the server. As a result, large assemblies that would have been excluded from an automated DFMPPro analysis earlier are now included right at the design stage. DFX Server Solution benefits include:

Run multiple analysis requests simultaneously



Uninterrupted workflow for designers



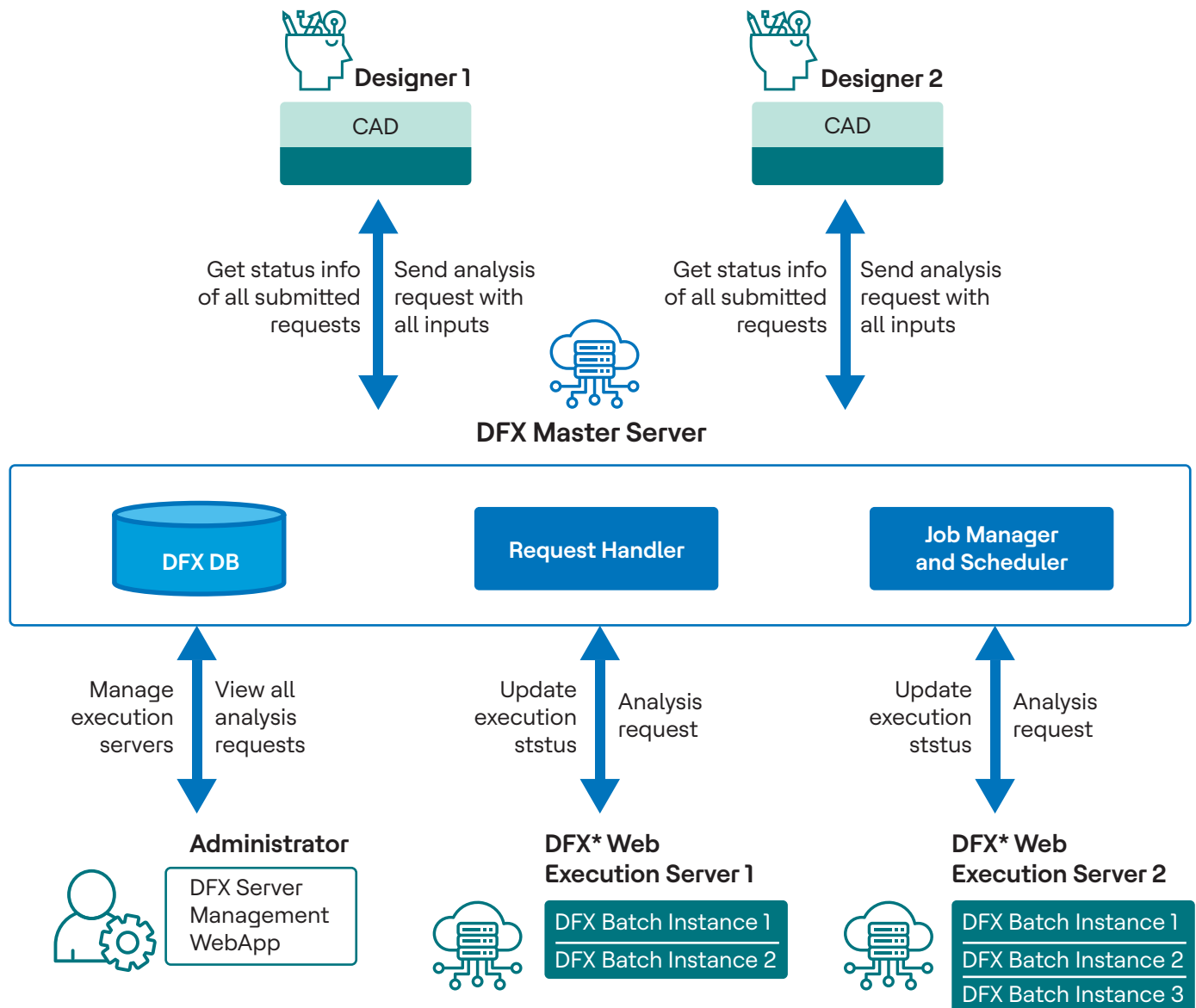
Timely design validation for downstream issues



Access to dashboard in DFMPPro add-in



DFX Server Solution Workflow



Note: *One or more execution servers can be deployed in the local enterprise network
*Multiple requests can be executed on one execution server (Creo Parametric is a pre-requisite)



In our organization, time to market is of utmost importance besides other factors. HCL DFMPPro product enabled us to digitize the design rules for a quick & timely feedback.

Apart from sets of standard design guidelines in the DFMPPro, we partnered with HCL to add Cisco specific design rules that caters to our organization. DFMPPro is the only automated tool for Design for Manufacturability (DFM) analysis besides input from manufacturer or analyzing parts manually. We have DFMPPro configured for Sheet Metal, Plastic & Die-cast parts to ensure that the parts are designed for manufacturability.



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About HCLSoftware

HCLSoftware, a division of HCLTech, develops, markets, sells, and supports software for digital transformation, data, analytics and insights, AI and automation, and enterprise security. HCLSoftware is the cloud-native solution factory for enterprise software and powers millions of apps at more than 20,000 organizations, including more than half of the Fortune 1000 and Global 2000 companies. HCLSoftware's mission is to drive ultimate customer success through relentless product innovation. <https://www.hcltechsw.com>