

Mask Tooling Manual – Project Overview

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Project Goals

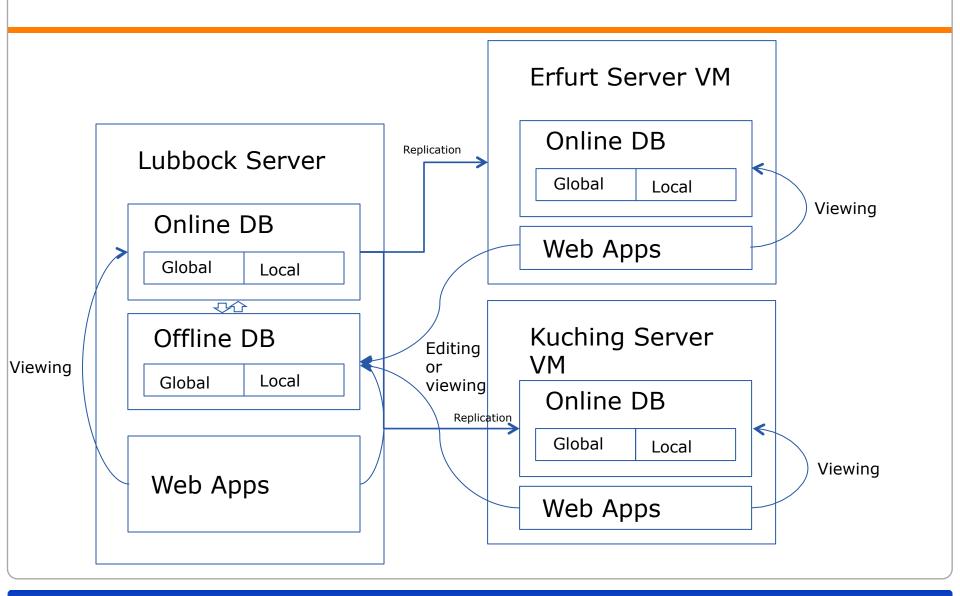
- > To allow easy access to Mask Tooling department mask data.
- > To more precisely control what data is used in creation of masks
- > To allow all X-Fab sites to use one central interface for mask data
- To replace the existing Mask Tooling system

Technical Description

- > Web tools have been created using ASP.NET with C# backend.
- Web tools hosted locally in Lubbock as well as on virtual servers in Germany and Malaysia
- > .NET V3.5
- > Database backend is a Microsoft SQL Server
- 2-tier DB approach to insure data integrity
 - Both databases contain same data structure
 - Offline database is used to store data as it is being edited
 - Online data contains only that data which should be used for production
- Database is further split into Global and Local data
 - Global data provides a global template that can be used to generate Local versions of data (site specific)
 - Local data is site specific and allows variations of data between sites while still using global templates.



System Flow





Databases

- Data is copied between databases to allow/prevent editing
 - Data is copied from online database to offline database to allow editing
 - Only one person may edit a specific process' data at a time
 - Once data editing has been finalized on the offline database, data is copied from the Offline DB to the Online DB
 - Changes may be discarded instead of put online
- Off-site copies of the online database are stored in Erfurt, Germany and Kuching, Malaysia on locally hosted VMs (VMWare).
 - Local copies of the ASP.NET web tools are hosted from the VMs as well
 - The VMs allow latency to be greatly reduced while using the system at other sites
 - The offline database only exists in Lubbock, and all editing is done to it
 - Problems of synchronizing databases two-ways forced this compromise
- Daily and weekly backups of all databases are made and stored on a backup server.



Web-Tools

- > 7 different web tools have been created
 - Document
 - Creates nicely formatted document customized for desired local data
 - Data Viewer
 - Allows easy viewing access to database data
 - MTM Change logs
 - Highlights changes between Online/Offline data, and keeps a history of changes over time
 - Global Process
 - Creates a document for global data
 - Editor
 - Allows editing of any database data
 - Incorporates Session locks, prevents multiple users from editing the same data.
 - User Administration
 - Allows granting/withdrawing different privileges for users
 - Session Administration
 - Allows handing over of Sessions between users



Document - Selection Screen





Document - Example ≫FAB

Data Viewer



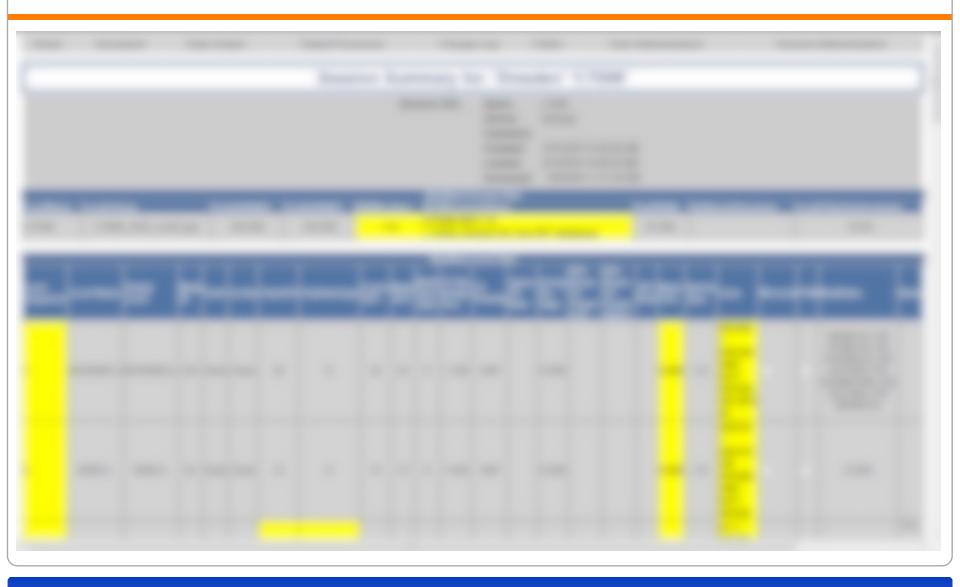


Global Process Viewer



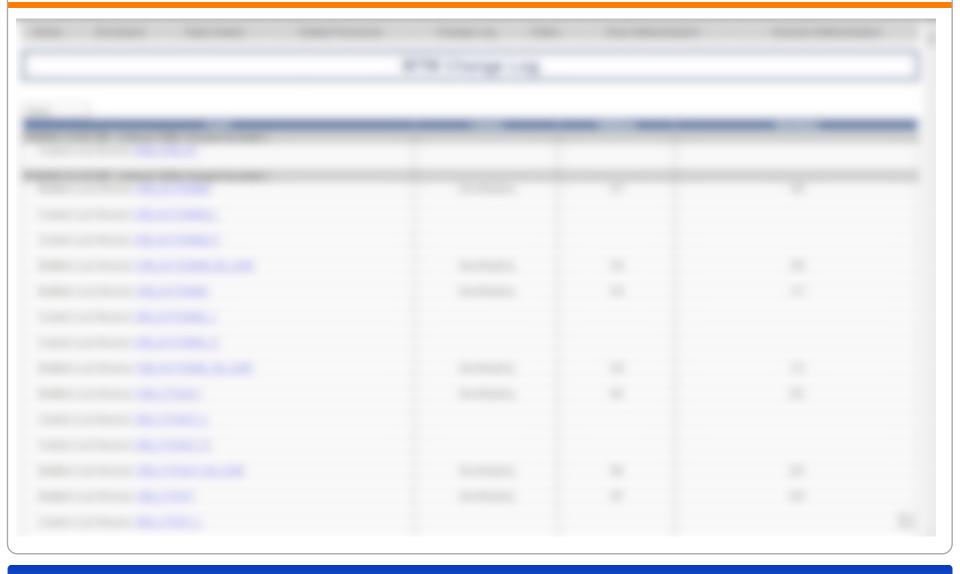


Change Log – Current Changes





Change Log - History





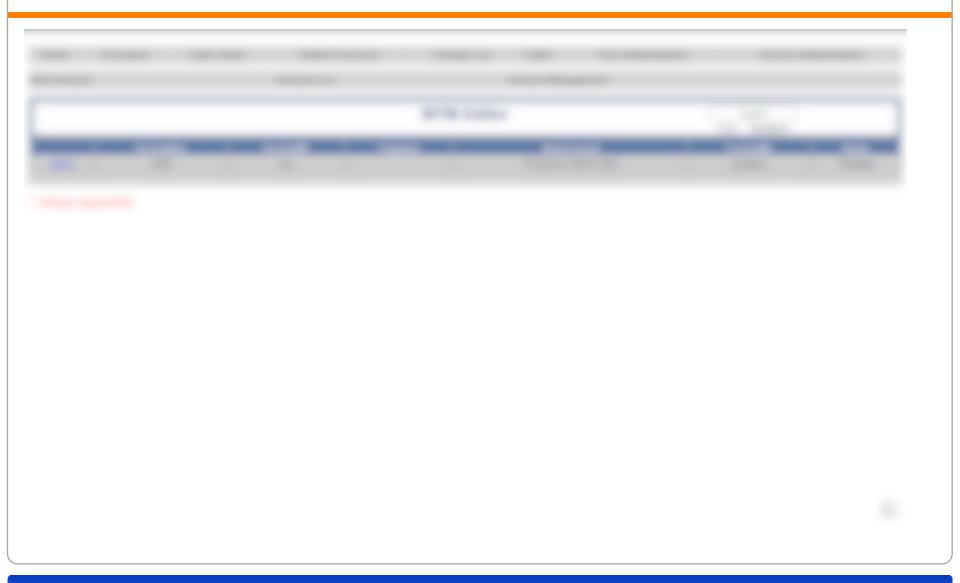
User Administration





Session Administration XFAB

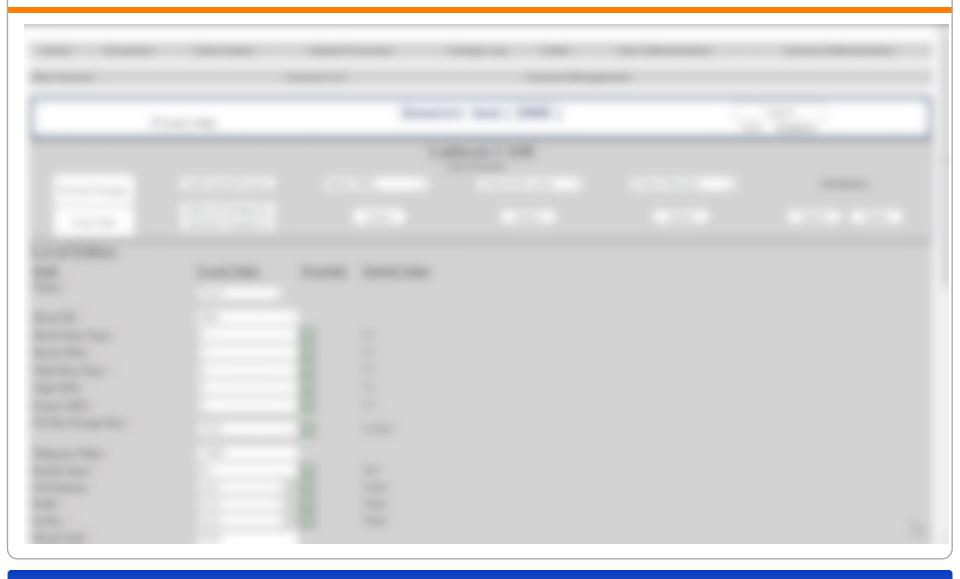
Editor - Session Selection





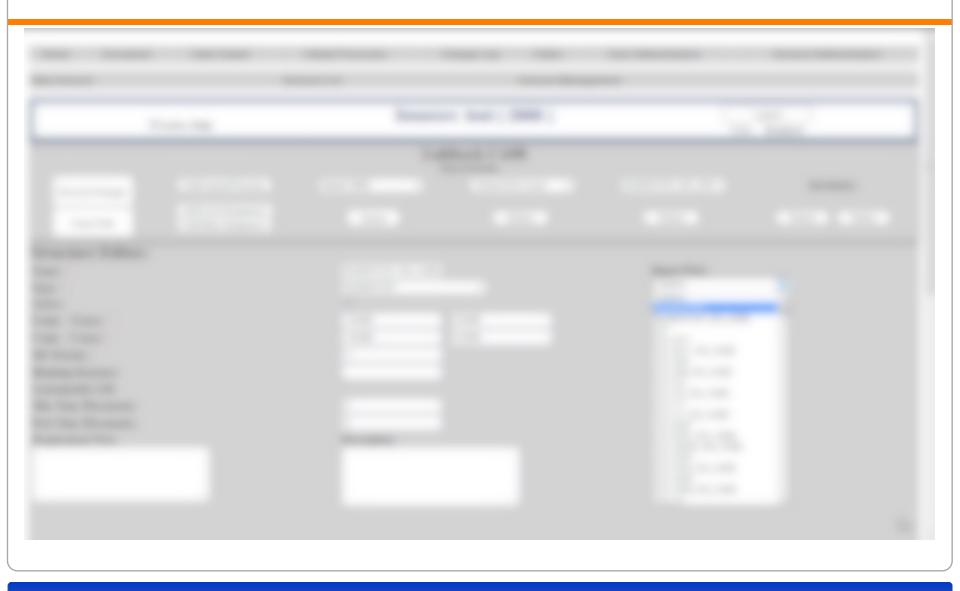
Editor – Session Management XFAB

Editor - Editing





Editor – Import Structure Data





Project Summary

- > Project Successfully completed
- Currently in use at all sites
- > Stable use >1yr
- Development time: ~1yr
- Replaced existing system
- > Developers: 1

