

Intellectual Property Protection Practices when Exchanging Data

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GLOBAL PRODUCT DATA INTEROPERABILITY **S U M M I T** 2015



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Darker Aerospace

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BOEING



Intellectual Property Protection Practices when Exchanging Data

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- **Take Away Topics**
 - An awareness of various ways that data may be leaking from your organization
 - Simple and affordable steps to increase the utilization of secure data exchange
 - Options for deeper supplier integration scenarios

Data Exchange / IP Protection

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Sinopec sued for intellectual property rights infringement by Ineos

Switzerland-based chemicals company sues China's state-owned oil refinery over technology relating to acrylonitrile

Reuters
The Guardian, Friday 21 March 2014 08:5
[Jump to comments \(3\)](#)



Sinopec says that it developed the 'core technology' for the refinery. (Maciej Noskowski/Getty Images)

by Matt | Facts and Figures

Intellectual Property Theft: Get Real

Facts and Figures

The Research: Facts and Figures Illustrate the Extent of Intellectual

Pamela Passman | March 11, 2014 08:08

Protecting trade secrets is a challenge in a global economy

Commentary: Governments have a role to play through national laws and international treaties.

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WASHINGTON DC—The emergence of the global economy has given rise to a persistent struggle to protect intellectual property against theft, leading over time to a framework for the protection of trademarks, copyrights and patents.

However, these laws and norms do little to safeguard company trade secrets, those increasingly valuable intellectual property assets that include market data, formulas, research, strategic plans and customer lists.

US Attorney General Eric Holder speaks during an event at the Eisenhower Executive Office Building in Washington, DC, November 29, 2011, announcing the Obama Administration's progress in cracking down on intellectual property theft crimes. (JIM WATSON/AFP/Getty Images)

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mer goods, entertainment,
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ows no bounds, and that is
patent (Cyber Attacks and
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of Commerce Intellectual
states as being between \$5
rical Contractor magazine,

Data Exchange / Collaboration

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- **Getting the Right Information**
 - Correct Version / Iteration
 - Appropriate IP exposure
 - Correct Configuration
- **To the Right Person**
 - Controlled Access
 - Audit Reports
- **At the Right Time**
 - Minimal Lag Time
 - In the Field Updates
- **In the Right Format**
 - Purpose Driven
- **Globally Accessible**
 - Via Internet, OFTP, or other standards based protocols



Typical Challenges Typical Concerns

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Reopen

Prepare View Votes

Poll - Data Exchange Use Cases / Concerns

- ☐ Large Documents
- ☐ IP (Intellectual Property) Protection
- ☐ Traceability / Audits / Reports
- ☐ Encryption / Compression
- ☐ Collaboration Web Spaces
- ☐ Ease of Use
- ☐ Outlook Integration
- ☐ Back End Systems Integration (like PLM)
- ☐ Mobile Integration (like iPhone)
- ☐ Distributed Data Vaults
- ☐ LDAP / Other Authentication

Today's Methods Audience Survey

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Poll - What Data Exchange Methods are used Today

Prepare View Votes

Poll - What Data Exchange Methods are used Today

☐ Email

☐ FTP

☐ EDI

☐ CD/DVD

☐ Tape

☐ External Drive / USB

☐ File Shares (VPN)

☐ External Application (eg Dropbox)

☐ Industry Portals (eg Government)

☐ HomeGrown Portal

☐ Odette OFTP

☐ Modems

☐ Smoke Signals / Morse Code

Close

Data Exchange / IP Protection

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Wikileaks publishes search of hacked Sony email

Dropbox users continue to unwittingly leak tax returns and other private data

I uses FTP. And yes, a hacked the server

Email & FTP – Really?

How old are your protocols?

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- **Simple Mail Transfer Protocol (SMTP)** is an Internet standard for electronic mail (e-mail) transmission across Internet Protocol (IP) networks. SMTP was first defined by RFC 821 in **1982** and grew out of standards developed during the 1970s.
- **File Transfer Protocol (FTP)** is a standard network protocol used to transfer files from one host to another host over a TCP-based network, such as the Internet. FTP is built on a client-server architecture and uses separate control and data connections between the client and the server typically with **clear text authentication** and published as RFC 114 in **1971**

Why do we keep doing it?

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Convenience vs. Security: Is There a Collision Coming (and Should We Care)?

By Barry Schaeffer | Jan 28, 2014

Featured White Paper: **Better Personalization = Better Customer Experiences**



In the growing wave of security concerns spawned by the slow staccato of major information breaches — Target, Neiman Marcus and several others unnamed at this writing are only the latest — there is another factor, largely ignored but of equal importance and perhaps even greater intractability.

That factor is convenience and our romance with it in virtually every part of our lives.

While the news media has yet to discover the story, more than one respected industry commentator has opined that *“increasing convenience almost always reduces security.”* Even without complex technical analysis, it only makes sense that when you make things easier and simpler for your intended users, you inadvertently do the same for the “users” you want to keep out.

In the business world, although a significant challenge, this convenience-security confrontation is more easily addressed because business planners are in a position to balance security and convenience at a level sufficient to protect their information assets from compromise — not to say that all do, of course — by directing internal users to simply deal with the security requirements as a condition of employment.

“increasing convenience almost always reduces security”

.... but does it really have to be that way?

Standalone “Simple” Portal Solutions

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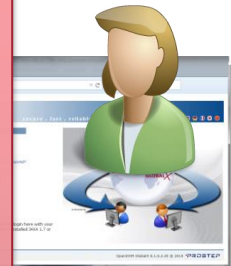
OEM / Sponsor

Supplier / Consumer

Standalone Portal Solutions

- ✓ Quick / Easy to Deploy
- ✓ Simple Administration
- ✓ Affordable (sometimes free)
- ✓ Good Basic Security (outside of email)
- ✓ Often Hosted outside of company *

Not Integrated (Swivel Chair) Solution —
Less Convenience (must be logged in and online) —
Can be hard to customize —
*Monthly Fees for users / volume add up quickly —



“Advanced” Portal Concepts

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Automated Processes

- Upload and download with Agent, installed at the user's desktop

Manual Processes

- User sign on over WEB-Browser and up- or download data manually, interactively

Advanced Portal Solutions

- ✓ Deeply integrated into systems and processes
- ✓ Fully automated and work behind the scenes
- ✓ Installed in the enterprise or the cloud
- ✓ Centralized or Distributed
- ✓ Designed for customization

Batch Mode

- Data are temporarily stored quickly in local network drive
- Transfer of data to run completely in a batch mode

Advanced Functionality

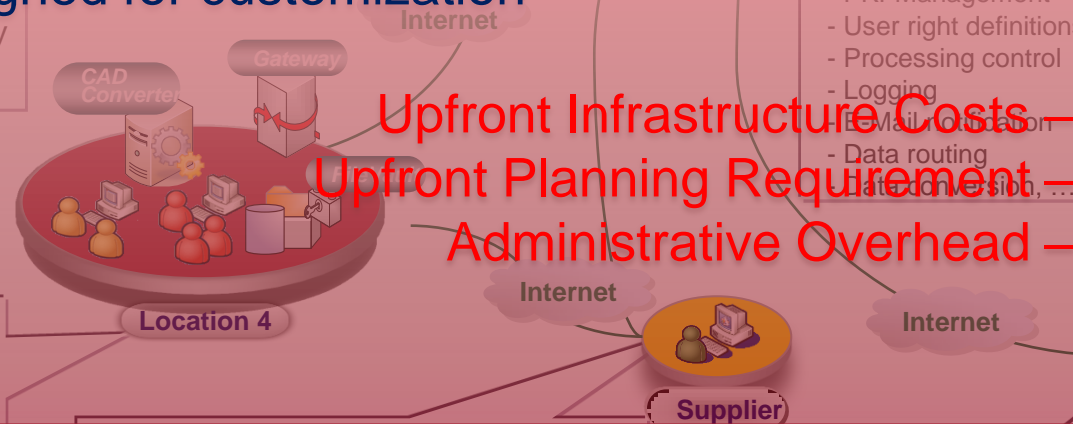
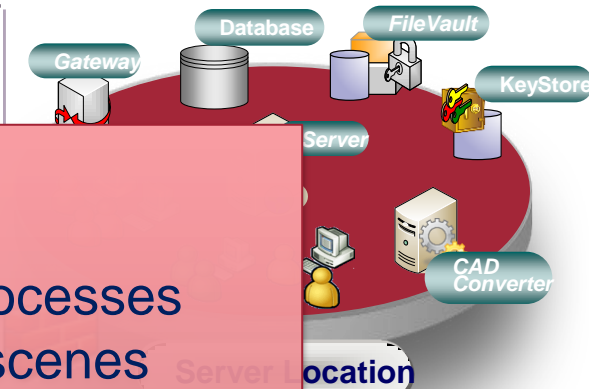
- Encryption
- Local File Vaults
- Local conversion of data

Remote Data Vaults

- Supplier signs in over WEB-Browser
- Data is uploaded from a data vault close to the end user

System to System

- Automated / Integrated



- Main OEM Server Location
 - Authentication
 - Encrypted data storage
 - PKI-Management
 - User right definitions
 - Processing control
 - Logging
 - File Mail Foundation
 - Data routing
 - Data conversion, ...

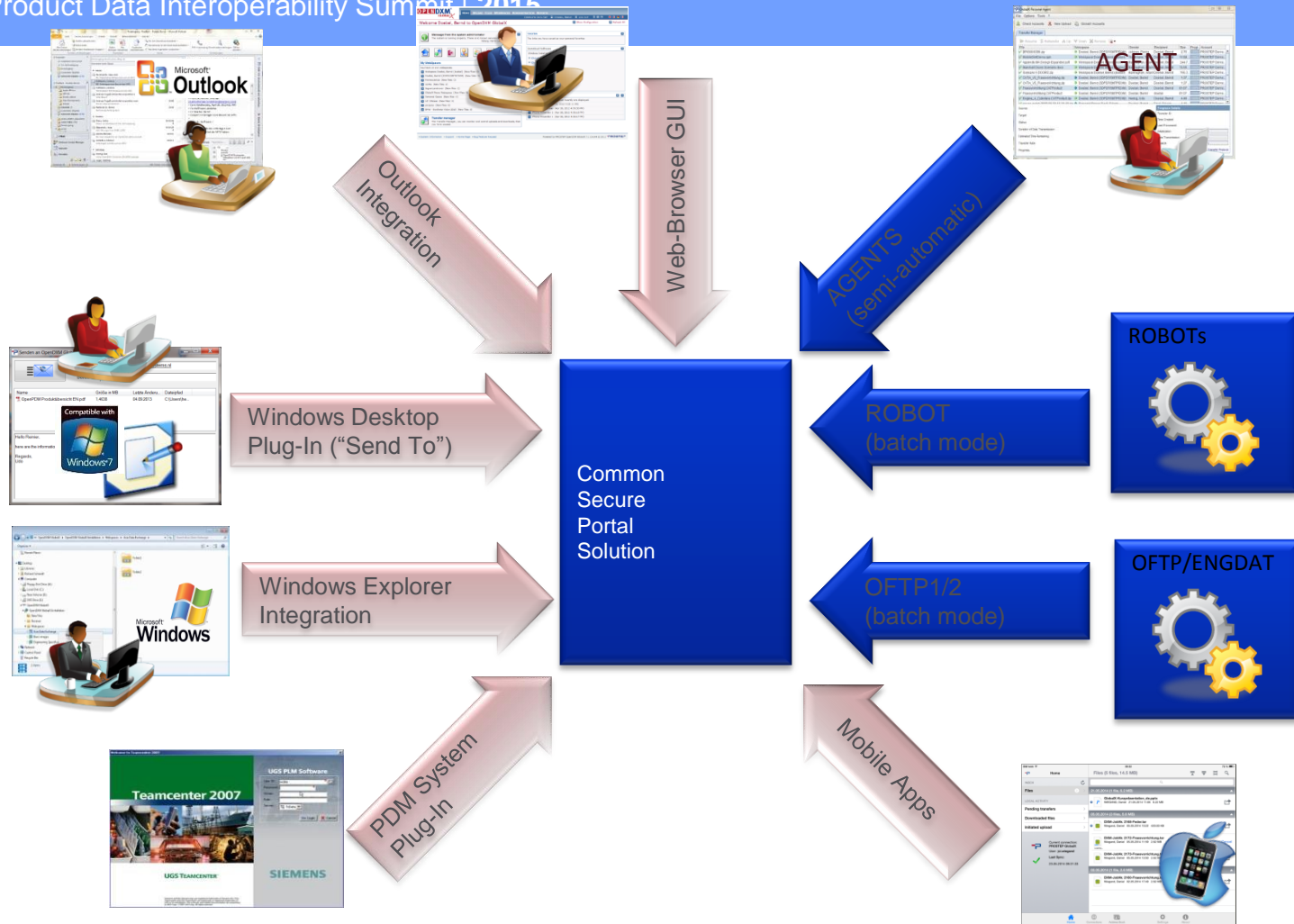
Convenient and Secure ?

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- **Secure exchange needs to start as close possible to the end users daily working environment**
 - Desktop Integration
 - Email Integration
 - PLM Integration
 - Purchasing / Bid Systems
- **If users have to leave their default working environment to send secure information, they are less likely to use the approved solution.**

Access from anywhere / any system

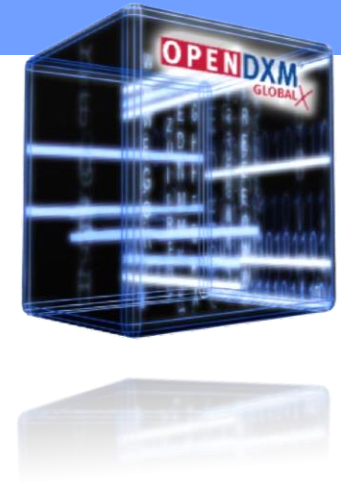
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Email Secure Send Demo

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- **Email (Outlook) Secure DX Integration Demo**
 - Internal User Initiates an email in Outlook
 - Size / Type of Data trips a switch this is secure / large data
 - **Data is sent to Secure DX Server (not the exchange server)**
- **THE END USER HAS NOT CHANGED ANY PRACTICES**
 - ZERO TRAINING
 - POLICIES ARE 100% ENFORCED WITH POLICIES
 - STOPS EMAIL IP LEAKAGE !
- **Audit Logs are kept separate from Clients and Mail Servers**
- **Data is always encrypted before transport outside of enterprise**
- **No data Load on Mail Server**



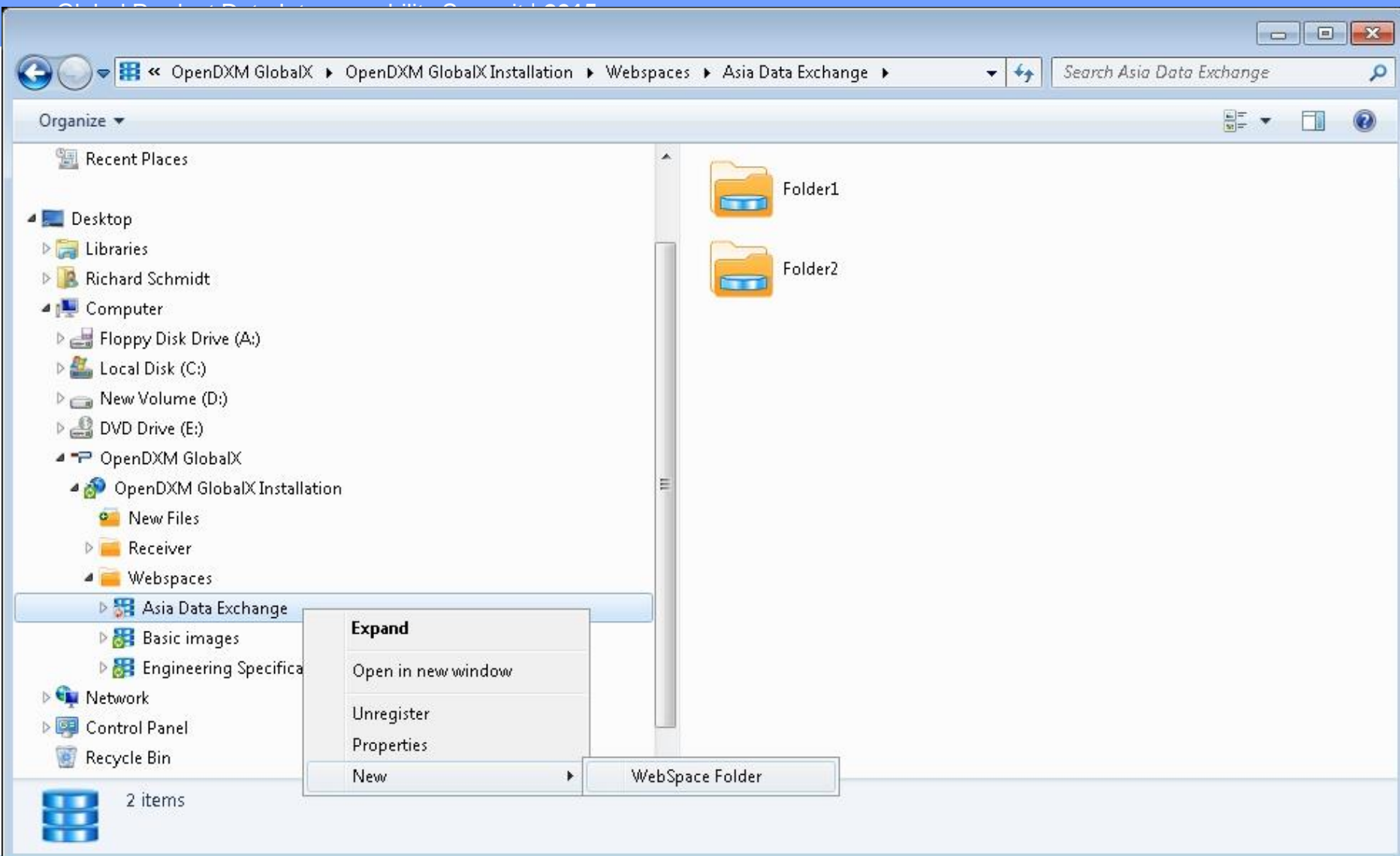
Email Secure Receive

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- **Email (Outlook) Secure DX Integration Demo**
 - External user Receives an Outlook Email
 - User Clicks on Download Data
- **Secure DX Link is invoked**
 - **Data is downloaded from the DX Portal (not Exchange)**
 - and decrypted for the recipient all from within Outlook
- **The end user has only one minor obvious change**
 - Zero (0.01%) self training



Desktop Integration (Drop Zones)



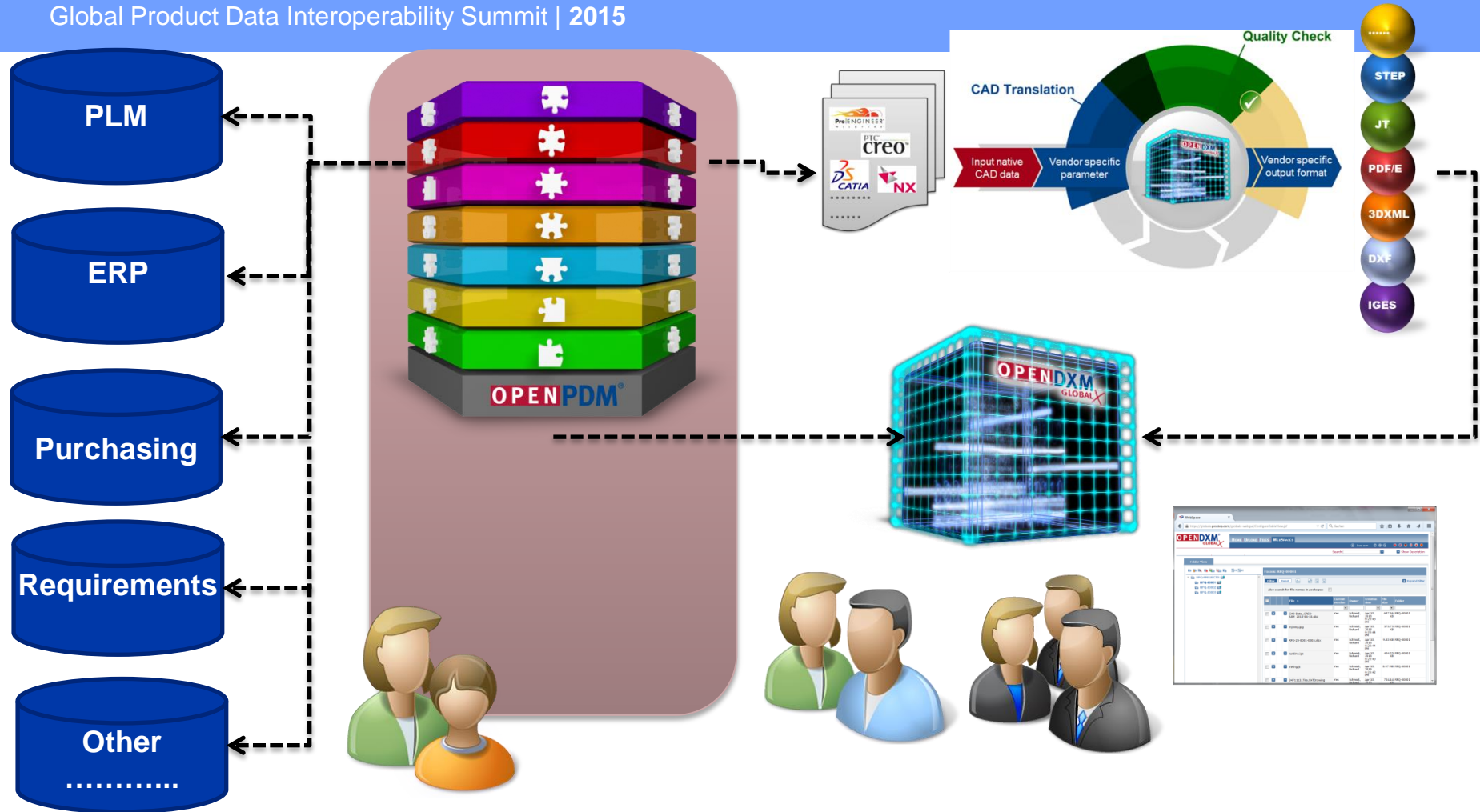
Scaling up Complexity with back end systems integration and automation

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- **Dealing with Engineering Data (of course) plus**
 - ERP Data
 - MRP Data
 - Bids
 - Financials
 - More
- **Centralized Reporting on all confidential Information**

Integrated Solutions

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Purpose Driven DX

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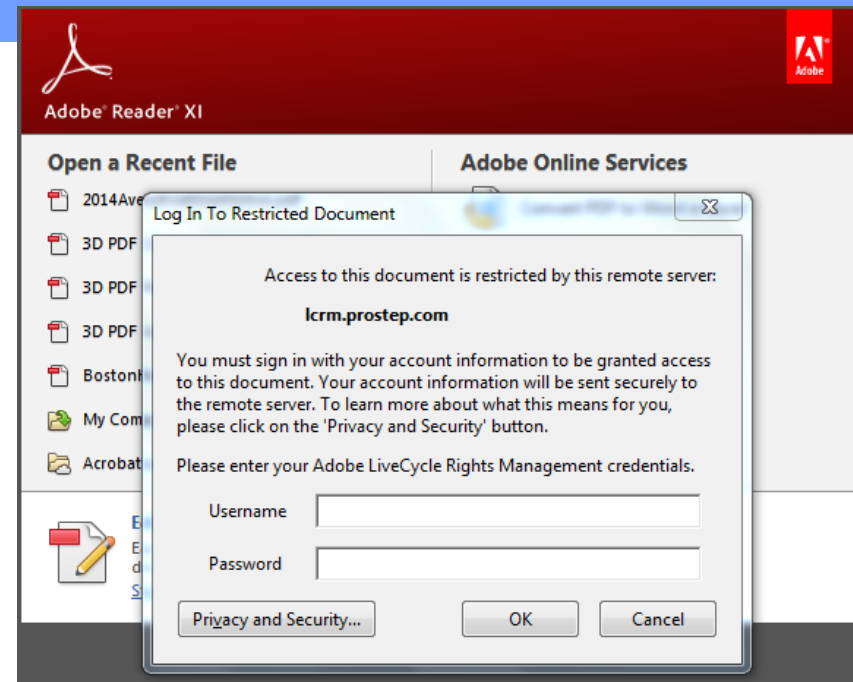
- You don't have to give away the corporate jewels
 - Systematic and Automatic processes can transform you data prior to data exchange to allow only the minimal information required for the recipient to do their job.
 - Data can be “dumbed down” with history, features and other IP related elements removed.
 - Each recipient can have a “data profile” that determines what they can receive
 - Neutral formats can be created, on the fly
 - NX
 - JT
 - STEP
 - 3DPDF
 - Etc



DRM Controlled Documents

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- **DRM Protected Documents**
 - Limit Access to named users
 - Revoke Rights in the field
 - Force Updates to Latest Document Versions
 - Authentic via PKI, AD, LDAP, RSA, Others
- **Limit Document Features**
 - Read Only
 - Save
 - Print
 - Copy
 - Measure
 - Cross Sections
 - Etc
- **Traceability Logs by Document**

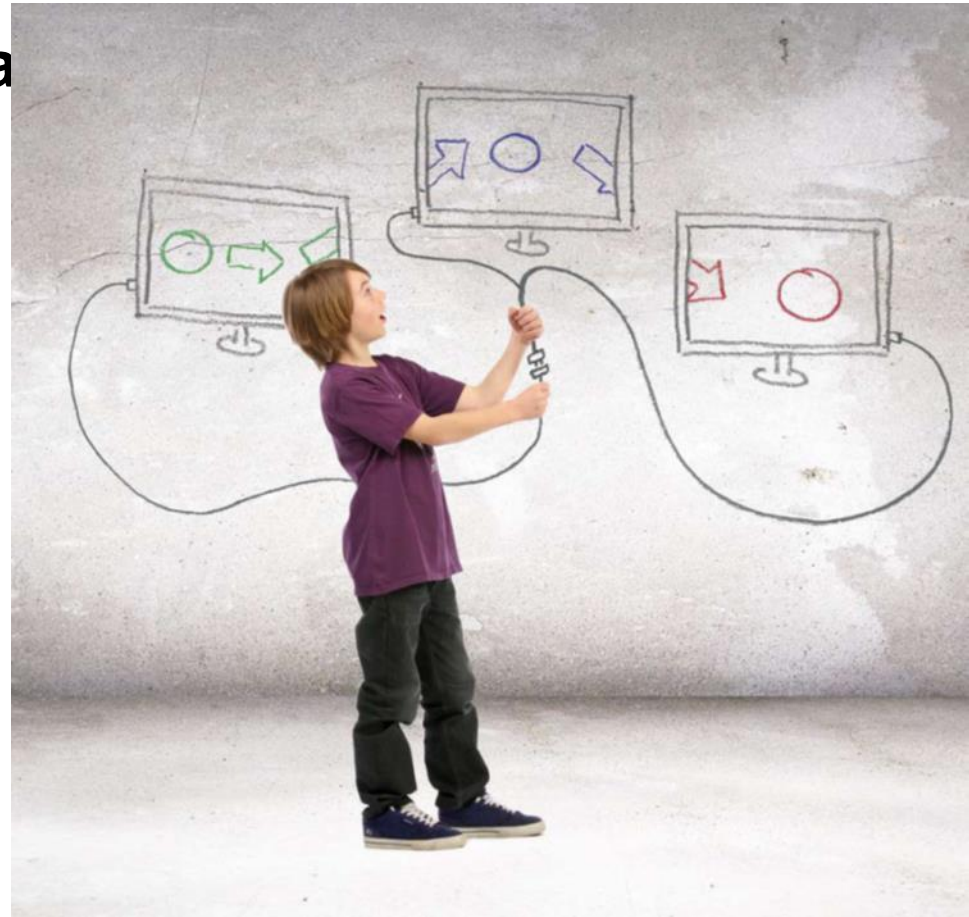


id	User	Detail	Date
current	Tom Tom	6EC4FDFC-D390-1031-8C9C-0000C04BC839	June 12, 2014 4:01:45 PM GMT+02:00
current	Tom Tom	6EC4FDFC-D390-1031-8C9C-0000C04BC839	June 12, 2014 4:01:32 PM GMT+02:00
current	Trautmann, Timo	6EC4FDFC-D390-1031-8C9C-0000C04BC839	June 12, 2014 4:01:03 PM GMT+02:00
current	Trautmann, Timo	6EC4FDFC-D390-1031-8C9C-0000C04BC839	June 12, 2014 4:00:46 PM GMT+02:00
current	Trautmann, Timo	6EC4FDFC-D390-1031-8C9C-0000C04BC839	June 12, 2014 4:00:39 PM GMT+02:00
current	Trautmann, Timo	6EC4FDFC-D390-1031-8C9C-0000C04BC839	June 12, 2014 4:00:09 PM GMT+02:00
current	Trautmann, Timo	6EC4FDFC-D390-1031-8C9C-0000C04BC839	June 12, 2014 3:59:47 PM GMT+02:00
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1g	Trautmann, Timo	6EC4FDFC-D390-1031-8C9C-0000C04BC839	June 12, 2014 3:59:45 PM GMT+02:00

Windchill – External Demo

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- **Windchill Demo External**
 - Starts in Windchill
 - 3D PDF / Design Review Template Created
 - PDF uploaded to secure encrypted portal
 - PDF is Modified
 - PDF is Uploaded back to Secure Portal
 - File is uploaded to Windchill and Attributes populated



SmarTeam to Windchill

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- SmarTeam to Windchill Demo (PDM to PDM DX)



Final Advice From the Field

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- **Start Today**
- **Use Free Trials** to get a feeling for what does and does not work for your enterprise
- **Look for a mix of Hosted or Self Installed Options**
- **Look for technology that integrates not only front end applications (Outlook, Desktop, Mobile) but back end applications like PLM, ERP, Etc**
- **Low Hanging Fruit to go after for DX Security**
 - Outlook
 - Desktop
 - Web Based
- **Don't forget about protecting your data once it leaves your enterprise. Getting it there is only part of the equation.**
 - Strip unneeded IP
 - Consider DRM solutions for when your data is in the wild.
- **CONSIDER PRESENTATION 3173 at 11:40am Room 3, for a detailed use case example from The Nordam Group (Aerospace Supplier).**

Company Overview



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A vendor neutral / independent engineering services and software company since 1993



OPENPDM®

Reseller

OPENDESC®

OPENDXM®

GLOBAL X



Over 22 years experience

with engineering interoperability, migration,
intelligent documents, benchmarking, more

**Approximately 250 employees and
consultants**

based from international locations throughout
Europe and in North America

More than 500 Customers

that are leading companies across most
industries

infocenter@prostep.com / 8-PROSTEP

Shareholders



BOSCH



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Our Customers



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Automotive OEMs



Aerospace Industry



Automotive Suppliers



Shipbuilding



Engineering, Plant Construction



Electrical/Electronics



Other Sectors



Questions:

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Thank you!

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