

# JT OPEN

## IP Protection with JT in the Cloud

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**Microsoft**

Enterprise Solutions Group, Microsoft

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2010 International Conference

VISUALIZING THE FUTURE

# Objectives

- Clear definition of cloud computing
- Examples of uses by manufacturing companies
- Demonstration of JT in the cloud for supply chain IP protection

# Emerging Technology Trends

MANY-CORE  
PROCESSING

ALL CONTENT  
DIGITAL

SCREENS  
EVERYWHERE

NATURAL  
UI



CLOUD COMPUTING PLATFORM

# Observations On Cloud Computing

- It is still very early
- It is always difficult to anticipate how new technologies will be used
- Lots of great ideas have already been implemented
- This will be a very rapidly evolving space

# Some Confusion Remains

- Cloud computing is all the rage.
- “It’s become the phrase du jour,” says Gartner senior analyst Ben Pring, echoing many of his peers.
- “The problem is that (as with Web 2.0) everyone seems to have a different definition.” - Infoworld, 2009

# Defining Cloud Computing

Application runs  
on-premises



Bring my own machines,  
connectivity, software, etc.  
Complete control and  
responsibility  
Upfront capital costs for the  
infrastructure

Application runs  
at a hoster



Rent machines, connectivity,  
software  
Less control, but fewer  
responsibilities  
Lower capital costs, but pay for  
fixed capacity, even if idle

Application runs using  
cloud platform



Shared, multi-tenant  
environment  
Offers pool of computing  
resources, abstracted from  
infrastructure  
Pay as you go

# Convergence of Need And Opportunity

Business Trends

Distributed value networks  
Dynamic, far-flung supply chains  
Emerging/fragmented markets  
Continued drive for lower cost

Cloud  
Computing

Technology Trends

Virtualization  
Evolving security models  
Ubiquitous high speed broadband  
Proliferation of devices  
SOA

# Definitions

- **Software as a Service (SaaS)**
  - Provider licenses an application to customers for use as a service on-demand and online
- **Platform as a Service (PaaS)**
  - The delivery of a computing platform and solution stack as a service. It often goes further with the provision of a software development platform, that is designed for cloud computing at the top of the cloud stack
- **Infrastructure as a Service (IaaS)**
  - The delivery of computer infrastructure (typically a platform virtualization environment) as a service
- **Software plus Services (S+S)**
  - Hybrid model, some components in the 'cloud', others on the device. Higher flexibility, constant connectivity not required



# Examples

Software-as-a-Service



Microsoft®  
Online Services

Platform-as-a-Service

 Windows® Azure™

Infrastructure-as-a-Service







# Microsoft Services Platform and Applications Seamless Experiences



## Cloud Services

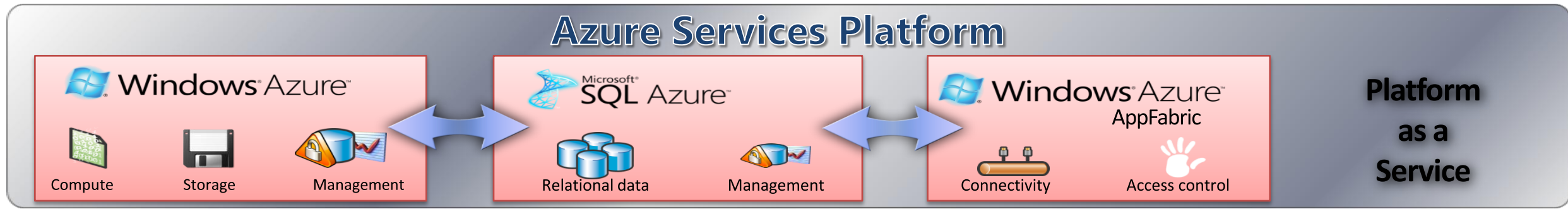
## BPOS

## Software as a Service

msn. bing. Microsoft Office Live. Microsoft Dynamics CRM Online. Windows Live. Windows Live Hotmail. Windows Live Messenger. xBOX LIVE. Microsoft HealthVault. Microsoft Forefront. OCS Online. Microsoft SharePoint Online. Microsoft Exchange Online. Microsoft Online Services.

## Azure Services Platform

## Platform as a Service



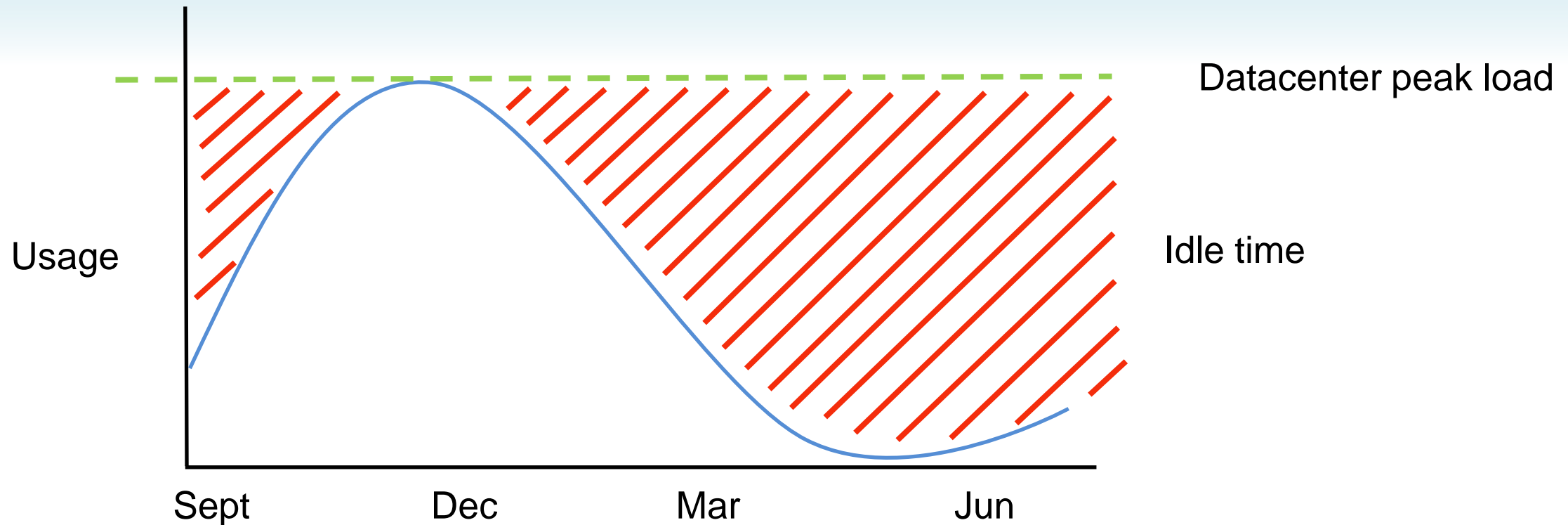
## Global Foundation Services

## Data Centers & Infrastructure

INFRASTRUCTURE SERVICES. ONLINE SECURITY. GLOBAL DELIVERY. ENVIRONMENTAL FOCUS.

# PaaS and Potential Uses in Manufacturing

# On Demand Scale

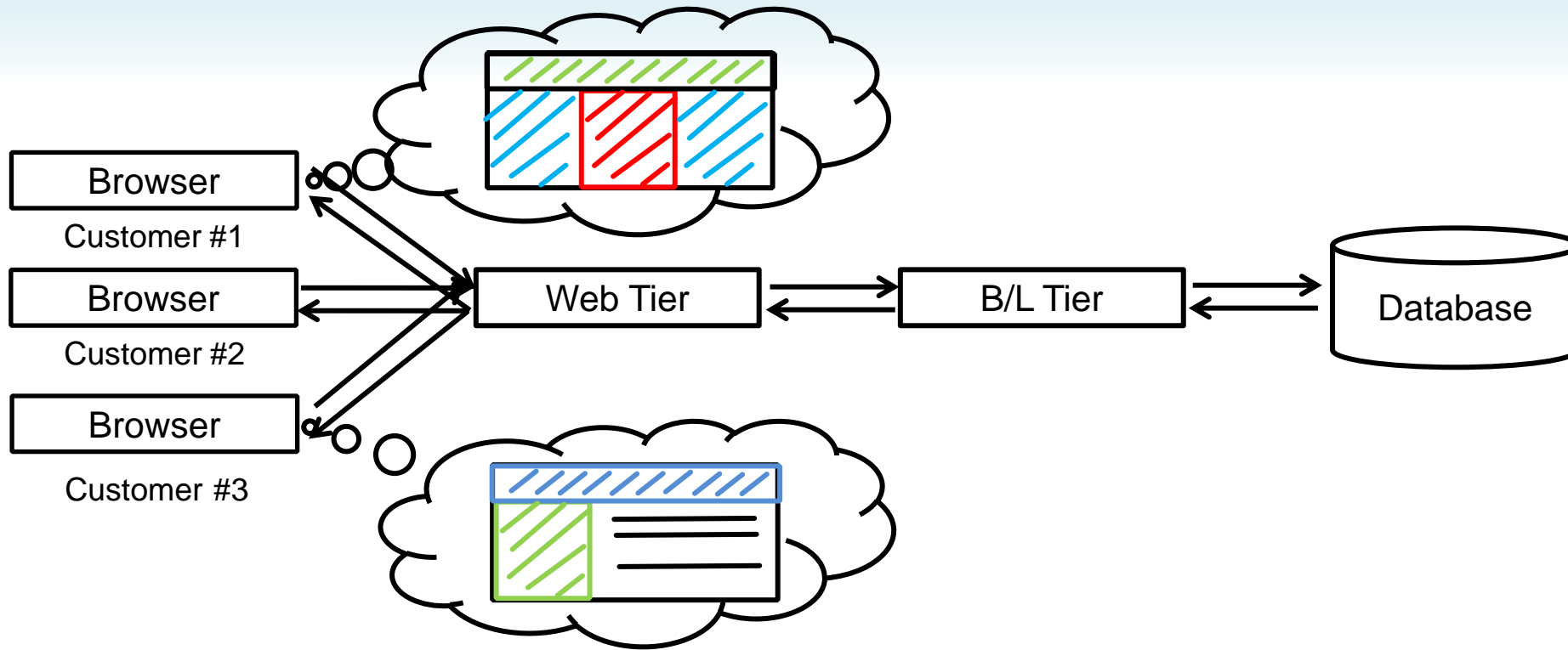


Provides the ability to increase or decrease resources depending on anticipated or unanticipated load changes. Relieves the IT department from needing to provision for 'worst case/greatest demand'. Provides agility.

*Potential application:* In an digital marketing application, scale up for seasonal increases in demand.



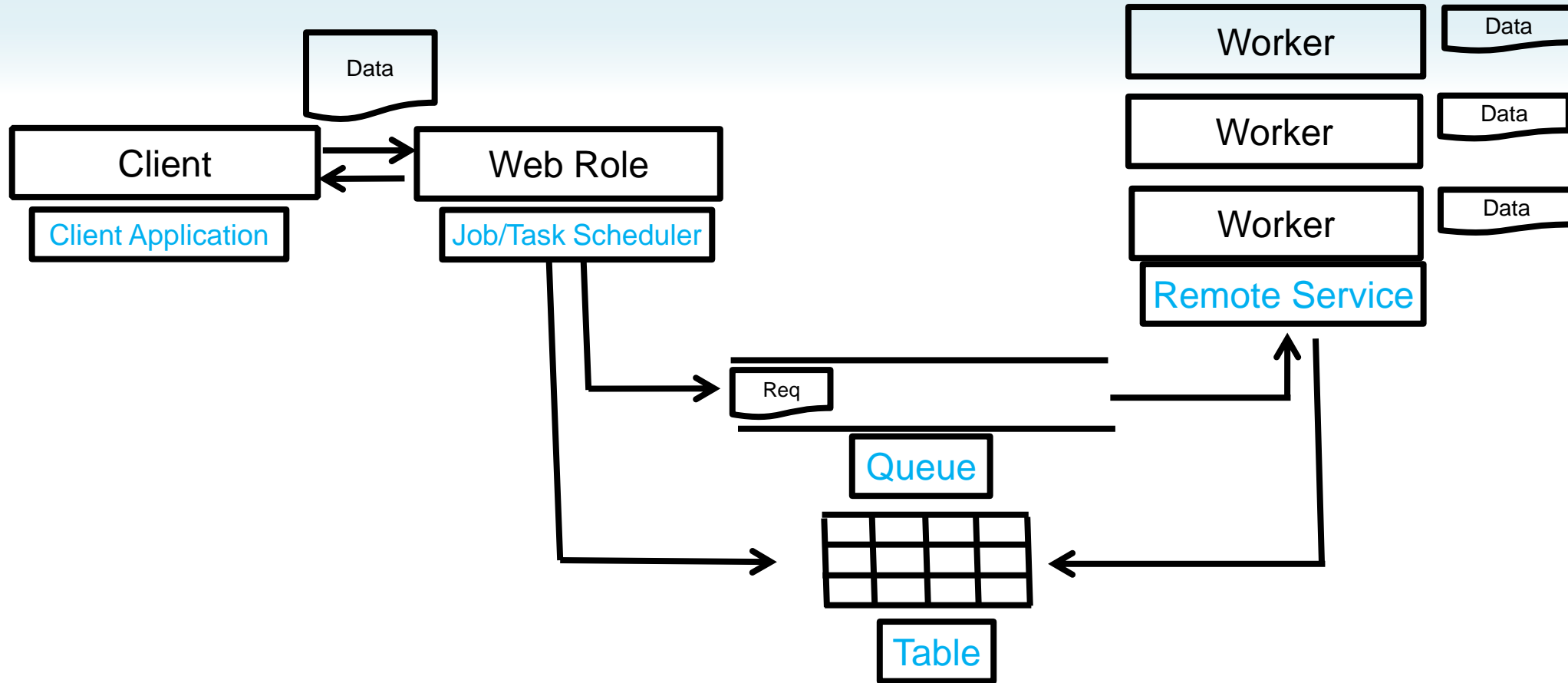
# Multi Tenancy



Via identity management, provides the ability for one set of code and data to be presented differently to different users.

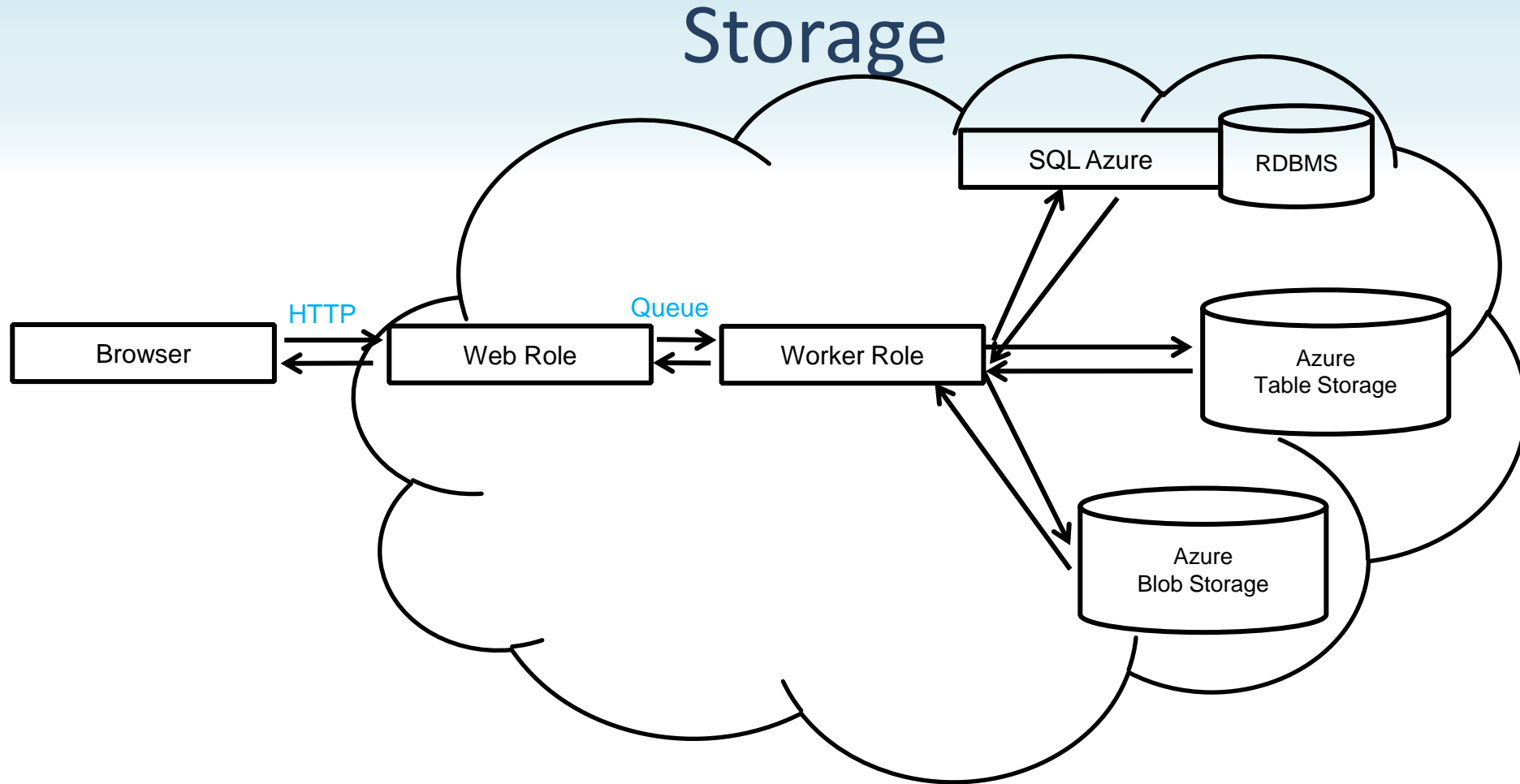
*Potential application:* Different members of the supply network have access to different data and properties within data, without need for separate databases. Aggregated supply chain information available to OEM.

# Compute



Provide massive amounts of compute power when and only when needed, enabling solving of large computational problems.

*Potential application:* Large complex simulations, including non-linear finite element analysis of complex assemblies in near real-time

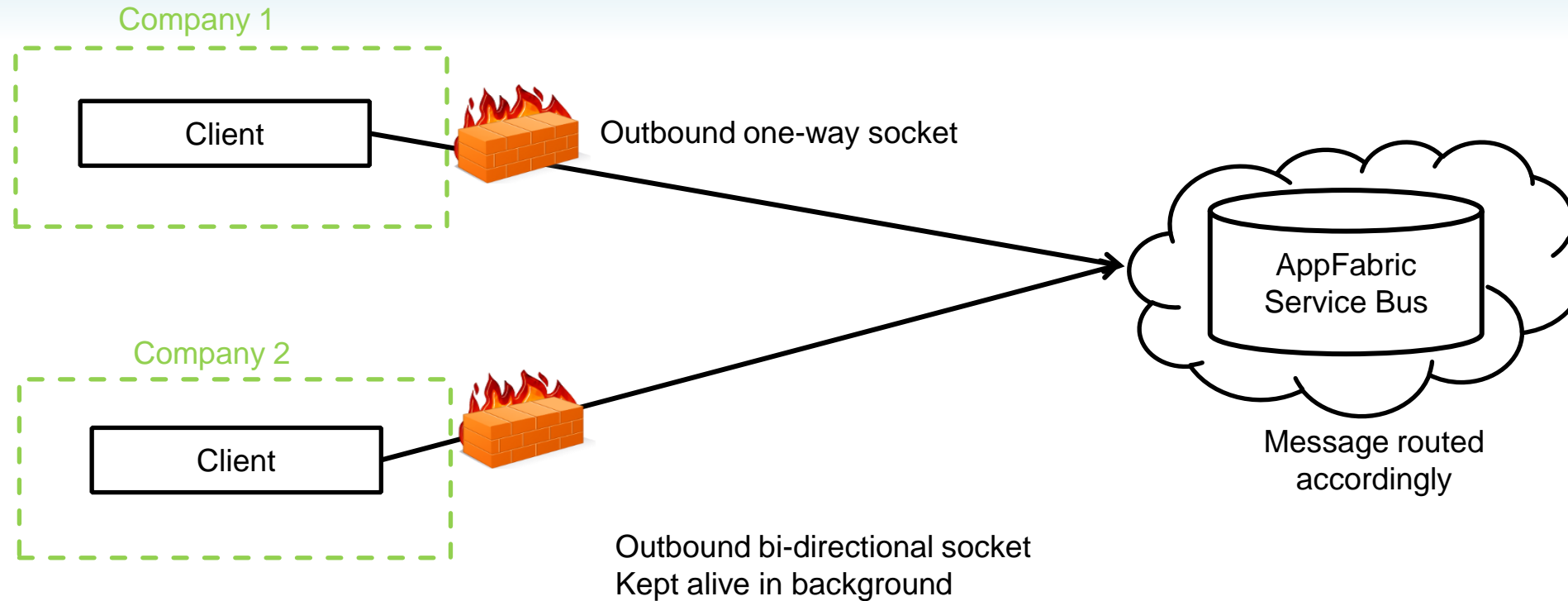


Provide virtually unlimited amounts of data storage, permanently or temporarily. Multiple, mixed data models available.

*Potential application:* Digital supply chain, providing material to devices. Virtual IP libraries. Customer information and transaction history.



# Inter-Enterprise Communications



Secure, agile connectivity among different companies, with security and identity management handled by Azure.

*Potential application:* Connecting a supplier's MES data to an OEM's QA reporting system.

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# *A Glimpse Ahead*

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# Disclaimer

- The following demonstration is a proof of concept
- While it could be easily implemented today, it is not a product, but an example of JT in the cloud

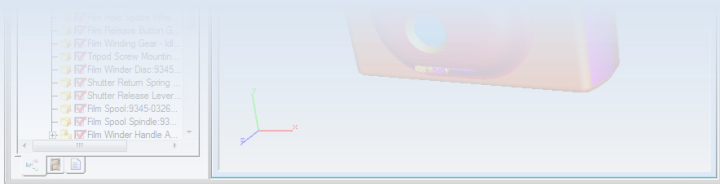
# Collaboration Challenge:

*Fabrikam deploys and manages a complex collaboration infrastructure..*

*Fabrikam, a global  
manufacturer of digital cameras*

***...but it is not always feasible or cost effective for all their  
suppliers & partners to deploy matching technology.***

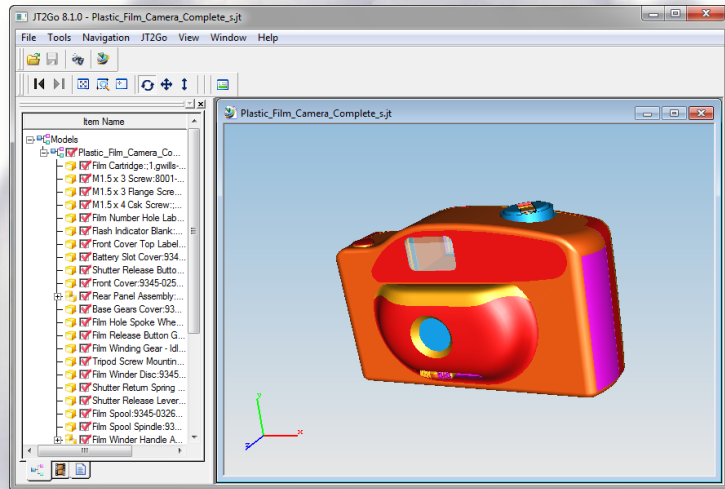
***However, for Fabrikam data security and IP protection is an  
absolute requirement.***



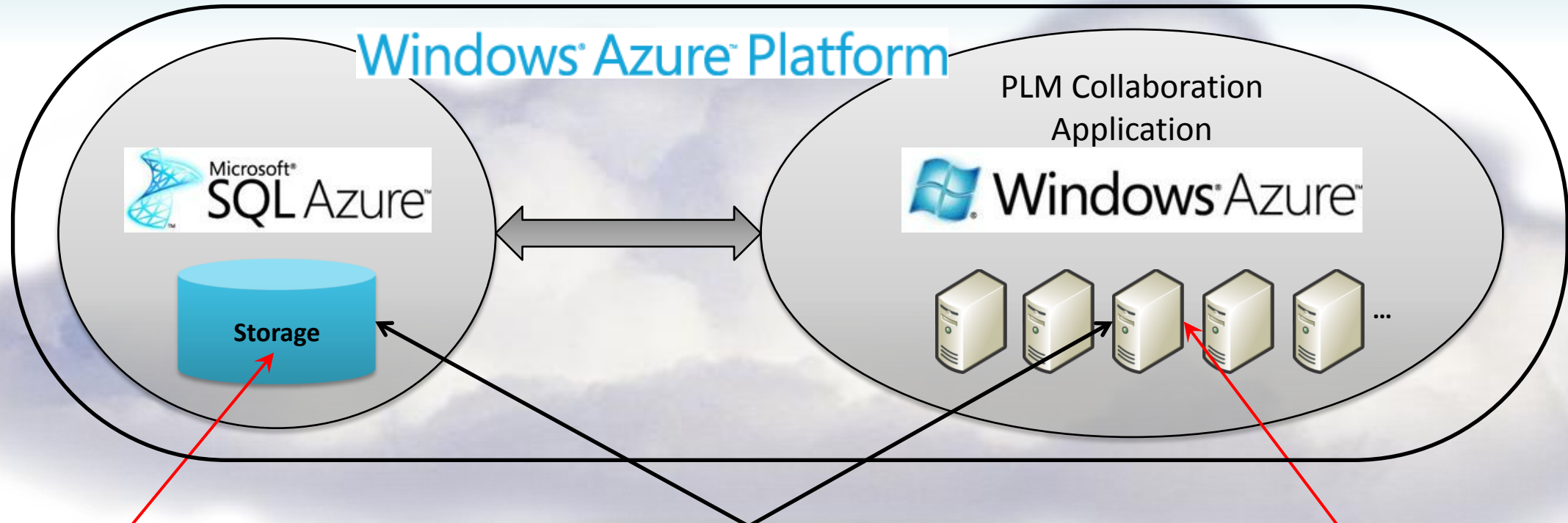
# Cloud Collaboration Application:

*Fabrikam uses an Azure cloud based Secure Extranet to collaborate*

*Using a Siemens PLM cloud based application developed on the Windows Azure Platform, Fabrikam uploads a full JT assembly of the digital camera.*



# Fabrikam Uploads JT Assembly to Azure



Non - graphic Data (i.e. BOM, attributes or metadata) is separated and uploaded to the SQL Azure store

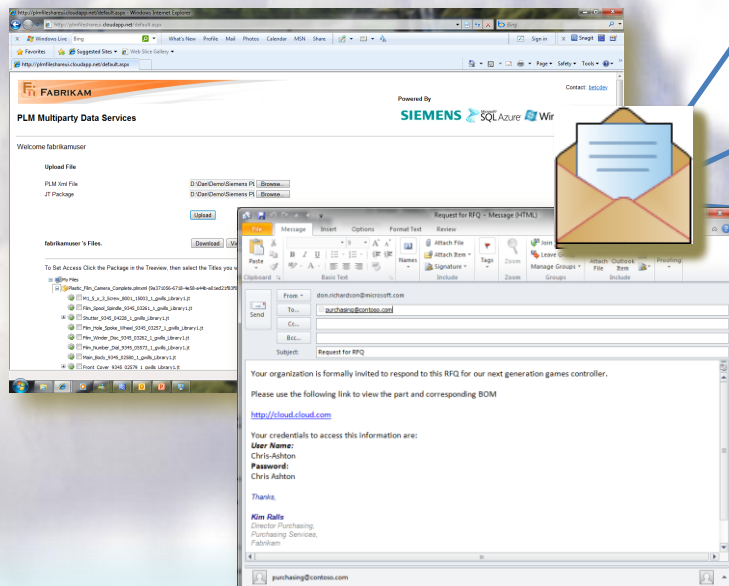
Description	Release Date	Content	Revision	Quantity	Line	Type
XENON WIRELESS GAMEPAD MANUFACTURING TEST - PKI	8/7/2006	Operational	A-1			0Wireless
CABOT BATTERY MODULE MS OBA PROCEDURE AT FOUNDRY	2/20/2009	Design	A			0Wireless
PARTS NOT POPULATED ON MB	6/24/2008	Electrical	A-1		12	Wireless/Part
PART SPEC:KOA.RES./MLF	3/27/2007	Environmental	C			0Wireless/Part
PART SPEC:KOA.RES./MLF	3/27/2007	Environmental	C			0Wireless/Part
PART SPEC:KOA.RES./MLF	3/27/2007	Environmental	C			0Wireless/Part
PART SPEC:KOA.RES./MLF	3/27/2007	Environmental	C			0Wireless/Part
PART SPEC:KOA.RES./MLF	3/27/2007	Environmental	C			0Wireless/Part
PART SPEC:KOA.RES./MLF	3/27/2007	Environmental	C			0Wireless/Part
PART SPEC:KOA.RES./MLF	3/27/2007	Environmental	C			0Wireless/Part
PART SPEC:ROHM.RES./MLF	10/19/2007	Environmental	B			0Wireless/Part
PART SPEC:ROHM.RES./MLF	10/19/2007	Environmental	B			0Wireless/Part
PART SPEC:ROHM.RES./MLF	10/19/2007	Environmental	B			0Wireless/Part
PART SPEC:ROHM.RES./MLF	10/19/2007	Environmental	B			0Wireless/Part

Graphic Data (i.e. 2D or 3D model) is uploaded to the Windows Azure store

# Cloud Collaboration Application:

*Fabrikam uses an Azure cloud based Secure Extranet to collaborate*

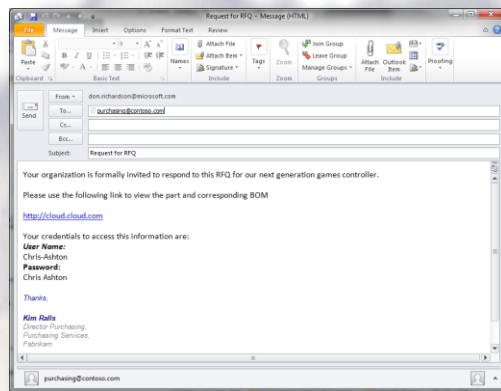
*Fabrikam assigns unique access rights for specific parts to each supplier and the Azure service automatically sends RFQ's via email to the suppliers.*



# Collaboration in the Cloud:

*Fabrikam uses an Azure cloud based Secure Extranet to collaborate*

*The email recipient clicks on the url in the email and is challenged for their credentials.*

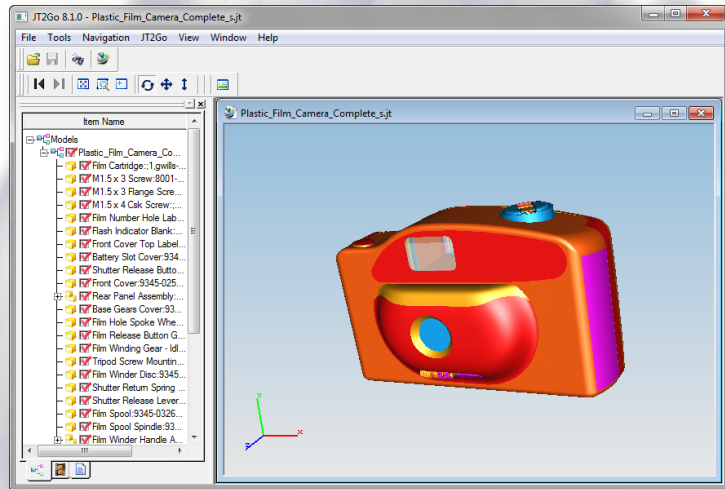




# Cloud Collaboration Application:

*Fabrikam uses an Azure cloud based Secure Extranet to collaborate*

*On successful authentication each supplier and manufacturer is able to see and/or download **only** the components or data to which they have access rights.*



# SIEMENS

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## Demonstration

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JT Package

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Clipboard: Paste, Cut, Copy, Format Painter

Font: Calibri, 11, Bold, Italic, Underline, Text Color, Background Color, Font Color, Font Style

Alignment: Wrap Text, Merge & Center, Text Alignment, Orientation

Number: General, Currency, Percentage, Decimals, Thousands Separator

Styles: Conditional Formatting, Format as Table, Cell Styles

Cells: Insert, Delete, Format

Editing: AutoSum, Fill, Clear, Sort & Filter, Find & Select

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	<b>Fabrikam - Plastic Film Camera Complete Assembly</b>																	
2	<b>Description</b>	<b>Part No.</b>																
3																		
4	M1 5 x 3 Screw	8001 15003																
5	Film Spool Spindle	9345 03261																
6	Shutter	9345 04228																
7	Film Hole Spoke Wheel	9345 03257																
8	Film Winder Disc	9345 03262																
9	Film Number Dial	9345 05573																
10	Main Body	9345 02580																
11	Front Cover	9345 02579																
12	Shutter Box	9345 04229																
13	Film Winder Handle Clamp	9345 04835																
14	Film Spool	9345 03260																
15	M1 5 x 3 Flange Screw	8000 15003																
16	Film Winder Handle Body	9345 04834																
17	Shutter Return Spring Lever	9345 02584																
18	M1 5 x 3 Flange Screw	8000 15003																
19	Film Release Button Gear	9345 03259																
20	Tripod Screw Mounting	9345 02585																
21	Lens	9345 04219																
22	Flash Indicator Blank	9345 03455																
23	M1 5 x 3 Screw	8001 15003																
24	M1 5 x 3 Screw	8001 15003																
25	M1 5 x 3 Flange Screw	8000 15003																
26	Battery Slot Cover	9345 03255																
27	Front Cover Top Label	9345 03456																
28	Shutter Release Lever	9345 02583																
29	Top Internal Molding	9345 05574																





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- My Files
  - Plastic\_Film\_Camera\_Complete.plmxml (9a371056-6718-4e58-a44b-a01ed21f83f0)
    - M1\_5\_x\_3\_Screw\_8001\_15003\_1\_gwills\_Library1.jt
    - Film\_Spool\_Spindle\_9345\_03261\_1\_gwills\_Library1.jt
    - Shutter\_9345\_04228\_1\_gwills\_Library1.jt
    - Film\_Hole\_Spoke\_Wheel\_9345\_03257\_1\_gwills\_Library1.jt
    - Film\_Winder\_Disc\_9345\_03262\_1\_gwills\_Library1.jt
    - Film\_Number\_Dial\_9345\_05573\_1\_gwills\_Library1.jt
    - Main\_Body\_9345\_02580\_1\_gwills\_Library1.jt
    - Front\_Cover\_9345\_02579\_1\_gwills\_Library1.it

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JT Package

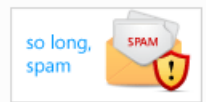
### fabrikamuser 's Files.

To Set Access Click the Package in the Treeview, then select the Titles you want to Set Access to from the Title List

- My Files
  - Plastic\_Film\_Camera\_Complete.plmxml (9a371056-6718-4e58-a44b-a01ed21f83f0)
    - M1\_5\_x\_3\_Screw\_8001\_15003\_1\_gwills\_Library1.jt
    - Film\_Spool\_Spindle\_9345\_03261\_1\_gwills\_Library1.jt
    - Shutter\_9345\_04228\_1\_gwills\_Library1.jt
    - Film\_Hole\_Spoke\_Wheel\_9345\_03257\_1\_gwills\_Library1.jt
    - Film\_Winder\_Disc\_9345\_03262\_1\_gwills\_Library1.jt
    - Film\_Number\_Dial\_9345\_05573\_1\_gwills\_Library1.jt
    - Main\_Body\_9345\_02580\_1\_gwills\_Library1.jt
    - Front Cover 9345 02579 1 gwills Library1.it

Titles for File: 'Plastic_Film_Camera_Complete.plmxml'			Set Access	
TitleName	TitleValue	Select	Based On	
Contractor	Siemens	<input type="checkbox"/>	User	<input type="text" value="Title"/> <input type="button" value="v"/>
Contractor	Contoso	<input type="checkbox"/>	Access	<input type="text" value="contosouser"/> <input type="button" value="v"/>
				<input type="text" value="GRANT"/> <input type="button" value="v"/>
				<input type="button" value="SetAccess"/>

- Hotmail
- contosouser@live.com
- Inbox
- Junk (1)
- Drafts
- Sent
- Deleted (10)
- Manage folders
- Add an e-mail account
- Related places
- Today
- Contact list
- Calendar



New | Delete | Junk | Mark as | Move to |

Reply | Reply all | Forward |

### PLM File Shared

From: plmsuperuser@live.com  
Sent: Fri 6/25/10 4:47 PM  
To: contosouser@live.com

Dear contosouser,

PLM File 'Plastic\_Film\_Camera\_Complete.plmxml' is Shared

The file 'Plastic\_Film\_Camera\_Complete.plmxml' has been shared. In order to access the file please click the following link  
<http://plmfileshareui.cloudapp.net/viewer.aspx?fileId=9a371056-6718-4e58-a44b-a01ed21f83f0>

Thanks,

PLM File Share Admin

\*\*\*\*\*  
SYSTEM GENERATED EMAIL, PLEASE DO NOT REPLY

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  - Plastic\_Film\_Camera\_Complete.plmxml (9a371056-6718-4e58-a44b-a01ed21f83f0)
    - Front\_Cover\_9345\_02579\_1\_gwills\_Library1.jt

### Titles For File

### Set Access

Based On

User

Access

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Welcome contoso user

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The image shows a 3D CAD model of a camera body, rendered in a multi-colored style (orange, blue, red, yellow, purple). To the left of the model is a tree view titled 'Item Name' containing a list of components. The components listed include: Plastic\_Film\_Ca, Film Cartridge, M1.5 x 3 Sc, M1.5 x 3 Fle, M1.5 x 4 Cs, Film Number, Flash Indica, Front Cover, Battery Slot, Shutter Rel, Front Cover, Rear Panel, Base Gears, Film Hole Sp, Film Release, Film Winding, Tripod Scre, Film Winder, Shutter Ret, Shutter Rel, Film Spool:S, Film Spool S, Film Winder, Shutter Cov, Main Body:!, Lens and Sl, Viewer & Fil, M1.5 x 3 Sc, and M1.5 x 2 Sc.



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The image shows a 3D CAD model of a camera lens assembly. The model is composed of several parts in different colors: red, blue, purple, and orange. A toolbar with various icons for navigation and manipulation is located above the model. On the left side, there is a tree view with the following structure:

Item Name
Models
Plastic_Film_Camera