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## PTC Product Focus

### Digital Human Modeling : Sneak Peek

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## PTC Product Focus

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### Windchill CDRL/SDRL in 9.1

In 9.1 of Windchill PTC is releasing CDRL/SDRL and hanging change functionality as part of the Aerospace and Defense Module.

For those of you who are not part of the Aerospace and Defense industry a CDRL is a contract deliverable list, a SDRL is a Subcontract deliverable list, and hanging change is a change that is approved and released to manufacturing without incorporating the change into the CAD Model or drawing. Today we are going to talk about the CDRLs and SDRLs and leave the hanging change for another day.

The main difference between a CDRL and SDRL is that you deliver a CDRL to your customer and you receive an SDRL from your subcontractor. Both are based on the government form DD1423 which most government agencies use. Both are derived from the package object (new in 9.1 also). Today we will talk about CDRLs but what is true for CDRLs is also true for SDRLs.

#### Acronyms you need to know

**CLIN (Contract Line Item):** Within a contract each line item may have a Contract Deliverable Item associated to it.

**CDRL (Contract Deliverable List):** This is a list that is comprised of all of the CLINs and their Contract Deliverable Items.

**CDRL (Contract Deliverable Item):** Yes the same acronym is used for the list and the item depending on the context that you use it in.

**DID (Data Item Description):** The DID is a document describing what is included in a CDRL and what format it should be delivered in. Not all CDRLs are described with a DID but most are. DIDs do not generally describe a single CDRL but a category of CDRLs. So say a contract has a category of CDRLs called Configuration Management there would be a DID that describes for all of the CDRLs in that category. This is a general rule but can change from contract to contract.

#### What is the CDRL Object?

The CDRL object is based on the package object but has additional attributes plus it's own unique lifecycle, and processes. It also understands the concept of delivery.

Let's first talk to the additional attributes PTC has added to the CDRL. These attributes match the fields on the DD-1423 form and could be used to fill in either an HTML version or an Adobe Forms version of the form for use in delivery of the CDRL. PTC has added three dates to the CDRL that are not on the DD-1423 these are Due Date, Submitted Date, and Approval Date . It

is important that these dates are maintained properly as they are used by a variety of OOTB reports that help the CDRL Manager check on the health of a contract. The use case as to how these dates are updated varies from customer to customer and even from contract to contract in the same customer. The two most prominent are integration with an external IMP (integrated master plan) or IMS (integrated master schedule). The IMP/IMS can be COTS like MS Projects or Primavera or highly specialized customer developed systems. The second use case would be to have a workflow robot update the dates at the appropriate time in the workflow process.

Once again the CDRL object is a specialized package object so let's look at why PTC chose the package object. The CDRL is the report back to the customer that you have delivered on a contract line item and usually has a payment schedule associated with it. If they are delivered late or not at all there are adverse financial impacts on the other hand if they are delivered on time and correctly there are usually financial incentives involved. It is therefore extremely important that the creation and tracking of CDRLs and their technical data package is as easy, accurate, and automated as possible. It is for that reason PTC chose the package object.

The CDRL package allows you to create lists of objects to be used in the creation of the actual deliverable. These lists are either manually created or created by adding one or more seed objects (like an end item) and having the system build the list via rules and relationships. Below is a screen shot that shows the options for the collection rules.

The screenshot shows the 'Set Collection Rules' dialog box. At the top, it displays the current configuration: 'Document Processing, Latest..., All Dependents'. Below this, there are several sections of configuration options:

- Configuration:** A dropdown menu labeled 'Change Configuration to:' with '--Select--' selected.
- Dependencies:** A dropdown menu labeled 'Dependents:' with 'All' selected.
- Collect Related Business Objects:** This section contains two columns of dropdown menus:
  - Left column: Drawings (None), Family Table (None), Generics (None), CAD / Dynamic Documents (None).
  - Right column: Parts (None), Documents (None), Affected Data (None), Notes (None).
- Collect Related Change Objects:** This section contains two columns of dropdown menus:
  - Left column: Problem Reports (None), Variances (None), Change Requests (None).
  - Right column: Change Tasks (None), Change Notices (None).

At the bottom right of the dialog, there are 'OK' and 'Cancel' buttons.

As you can see almost any data that has a relationship to those that you initially select, can be added automatically, eliminating missing data due to operator error. This feature is extremely useful when generating a large technical data package for the CDRL. Speaking of large technical data packages often times they are recurring and it is not required to send all of the data on every delivery. The delivery wizard takes this into account and allows the user to select whether or not to send the complete package or only those items that have change when the CDRL is recurring.

Let's take a quick look at the steps in the OOTB process. Remember with any lifecycle managed object I Windchill this process can be configured to match the customer's process or the process required via the contract.

**Step One:** The CDRL manager would create the CDRL and fill in all of the attributes required by the contract for the DD1423 form. If this is a recurring CDRL he would either revise the previous delivery or in the case of a successor CDRL he may perform the save as function.

**Step Two:** The collections need to be created. In the case of a single document CDRL like a monthly earned value report. The CDRL manager may do that himself or he can route the CDRL to other contributors per the wizard shown below.

Name	Description
<input type="radio"/> Package Approval Routing	Package Approval Routing process manages the review and approval of the package.
<input type="radio"/> Package Content Routing	Package Content Routing process manages the addition and modification of collections of objects in your package.
<input type="radio"/> Package Delivery Routing	Package Delivery Routing process manages the delivery of locked packages to both internal and external recipients.

(0 objects selected)

\* Indicates required fields.

Back Next Finish Cancel

There are several types of routings for a CDRL in this case we would be using the Content Routing. Also notice the steps required by the wizard. You select the type of routing. Define the distribution list which in this case are the people who will be adding content to the CDRL.. You also can add special instructions for the content suppliers and finally add a due date as to when the routing process should complete. In this process the contributors get a task and the CDRL manager also gets a task that allows him to track the progress of the contributors.

**Step Three:** This step is another route but this time it is the Approval Routing. This step is optional and is only performed if internal approval is required. The options are the same as with the Content Routing.

**Step Four:** This routing defines who will perform the remainder of the steps.

**Step Five:** Create the delivery label the wizard is shown below. Any number of labels can be created for a single CDRL and can be copied forward in the case of recurring CDRLs.

\*Recipient Name:

Organization:

Email Address:

Send email notice of delivery

Shipping Address & Contact:

\*Sender:

Contact Info:

Subject:

Recipient Instructions:

Delivery Number:

Delivery Medium:

Planned Delivery Date:   yyyy-mm-dd

Tracking ID:  Delivery Service:

Send Package:  Send Now  
 Send Later

**Step Six:** Now that we have all of the shipping information complete we Lock the CDRL and create the Zip file for delivery. When you lock the CDRL you prevent anyone from adding to the collections. You also are asked if you wish to create a zip file which will contain the documentation required for delivery of the CDRL. Below is the wizard used in the creation of the zip file.

## Lock Package ?

Once a package has been locked, you cannot add additional objects without creating a new package revision.

Include all extensions  
 Include only the following selected extensions:  
 Exclude only the following selected extensions:


<p><b>Available Extensions:</b></p> <div style="border: 1px solid #ccc; padding: 5px; min-height: 100px;">       3DS        3DXML        ACF        ACL        ACS        AI        ANL        ASC        ASM     </div>	<input type="button" value="Add &gt;"/> <input type="button" value="Add All &gt;&gt;"/> <input type="button" value="&lt; Remove"/> <input type="button" value="&lt;&lt; Remove All"/>	<p><b>Selected Extensions:</b></p> <div style="border: 1px solid #ccc; height: 100px;"></div>
--	--	---

Create Zip File of Package Content

\* Indicates required fields.

When you check off create zip file of package content what happen. The system reads the collections/lists of objects included with the CDRL and places them into a html format for delivery. The content (files associated to) of those object are also included in the zip file. But only those with the extensions defined in the wizard. For example if the contract requires that you only supply drawings in PDF format how is that done? The end user would include the parts as a member of one of the collection these parts have CAD docs and CAD drawings along with the PDF representation. In this case you would check off Include only the following selected extensions then add only PDF. When the zip is created the parts and attribute information would be written out to HTML and the only content files would be the PDFs. There is a Index.html file included in the zip this file is how you view and or traverse the information included in the dilevery. There is no need to have access to the Windchill system all the data is included within the zip file. The next page has an example of what this looks like. The object can be displayed as a list, document structure, or product structure.

Package Details

 [CDRL - NAV-1234-TDP-01, 97871, B](#)

**Name:** PDR TDP

**Description:**

**State:** INWORK

**Type:** CDRL

**Owner:** walt

**Context:** Contract 1234

**CAGE Code:** 97871

**Created On:** Sep 11, 2008 1:19:31 PM

**Recipient Instructions:** review and accept

**Contract Line Item Number:** 0002

**CDRL/SDRL Category:** Configuration Management

**System/Item:** All

**Contract Number:** 1234

**Contractor:** PTC

**Data Item Number:**

**Title:**

**Subtitle:**

**Authority:**

**Contract Reference:**

**Requiring Office:**

**DD 250 Req:** SS

**App Code:** A

**Dist Statement:** A

**Frequency:** 1TIME

**Date As Of:** PDR

**Date First Submit:**















**Date Subsequent Submit:**

**Due Date:**

**Submitted Date:**

**Approved Date:**

**Remarks:**

Package Content		Current View: <span>Contents</span>			
	Name	Number	Version	Context	Location
	Contract line item 0002	 0000000041	-1	Contract 1234	/Reference Docs
	Technical Data Package	 0000000022	-1	Contract 1234	/Reference Docs
	33900311-001	 33900311-001	-1	JMS Seeker	/parts and CAD docs
	33900311-001	 33900311-001	-1	JMS Seeker	/parts and CAD docs
	33901206-001	 33901206-001	-1	JMS Seeker	/parts and CAD docs
	33901206-001	 33901206-001	-1	JMS Seeker	/parts and CAD docs
	33901207-001	 33901207-001	-1	JMS Seeker	/parts and CAD docs

The next screen shot shows the properties page of a part. Notice that this looks very similar to the properties page you would see within Windchill. Also the link to the jar file includes all of the content file requested through the create zip file wizard and are viewable using PTC's product view module.

Part - [33900311-001\\_97871,-1](#)

**Name:** 33900311-001  
**Number:** 33900311-001  
**CAGE Code:** 97871  
**State:** In Work  
**Version:** -.1  
**Assembly Mode:** component  
**Context:** JMS Seeker  
**Contract Number:**  
**Default Trace Code:** Untraced  
**Default Unit:** each  
**End Item:** No  
**Job Authorization Number:**  
**Life Cycle Template:** Basic  
**Phase:**  
**Source:** make  
**Representations:** [Representation-130.jar](#)



**Attachments:**

Name	Content Type	Role
<a href="#">33900311-001_small.jpg</a>	ApplicationData	THUMBNAIL_SMALL
<a href="#">33900311-001.jpg</a>	ApplicationData	THUMBNAIL
<a href="#">33900311-001.pvt</a>	ApplicationData	THUMBNAIL3D

## Reports

Below is a list of the OOTB reports for use the CDRL/SDRLs

All CDRLs pending customer approval.
All SDRLs pending customer approval.
All CDRLs that were shipped late within the specified dates.
All SDRLs that were shipped late within the specified dates.
All CDRLs that have been approved within the specified dates.
All SDRLs that have been approved within the specified dates.
All CDRLs that have been canceled.
All SDRLs that have been canceled.
All CDRLs that are overdue as of today.
All SDRLs that are overdue as of today.
All CDRLs that are due in the next 30 days.
All SDRLs that are due in the next 30 days.
All CDRLs that are due within the specified dates.
All SDRLs that are due within the specified dates.

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## Tips of the Month

### Calculating Dynamic Forces and Sending them to Mechanical Structure

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## Tips of the Month

### Relating Contract Line Items and DIDs to a CDRL

It is sometimes important to know what CDRLs have been delivered for a CLIN and or a DID. If this is true I softtype the document object into a CLIN object and also a DID object. I then store them in Windchill. It is true that these documents are controlled by the customer (government) but putting them into the system has several benefits:

**One:** It allows you to give access to the documents without having to go to the contract site maintained by the government.

**Two:** Allows you to create a relationship between the CDRL and the specific version of the CLIN/DID used to deliver the CDRL.

**Three:** Makes the reporting of the CDRL information easier.

Once I have the CLIN and DIDs in the system I then add a collection list named Reference Documents to the CDRL. This list includes the CLIN and the DID. This gives anyone who is contributing to the CDRL content immediate access to the supporting customer data.

The screenshot displays the Windchill interface for a CDRL. At the top, it shows the CDRL name "CDRL - NAV-1234-CMR-001, 61875, E" with a state of "Accepted". Below this, there are fields for "Name: CM Status Report", "Zip File: NAV-1234-CMR-001E.zip", and "Contract Number: 1234". A "State" dropdown menu is set to "Accepted". The "Last Modified" date is "2008-09-23 08:01 EDT" by "Walter Morrow".

The "Package Content" section shows a table with 4 objects. The table has columns for Name, Actions, Number, Version, Context, State, Last Modified, and Collection Rule. The objects listed are:

Name	Actions	Numbe	Version	Context	State	Last Modified	Collection Rule
Reference Documents	Actions			EDC		2008-09-23 07:57 EDT	
Configuration Management	Actions	00000	A.1	Contrac	Relea	2008-09-22 13:50 EDT	Initially Selected
Contract line item 0001	Actions	00000	A.1	Contrac	Relea	2008-09-22 13:50 EDT	Initially Selected
Report	Actions			EDC		2008-09-23 07:57 EDT	

Another reason for doing this is both the CLIN and the DID now knows what CDRLs have been delivered or are scheduled to be delivered to it. Below is a screen shot showing this.

Program: Contract 1234 | Folder: [Data Item Descriptions](#)

**Actions** **DID - 0000000033, 61875, A.1** **State:** Released

Name: Configuration Management

Primary Content: [Configuration Management.doc](#)

Latest Iteration: [Shortcut to Content](#)

State: In Work - Released - Canceled - Obsolete

Status: Checked in

Modified By: [Walter Morrow](#) on 2008-09-22 13:50 EDT

Format: Microsoft Word

Location: / [Contract 1234](#) / [Data Item Descriptions](#)

[More Attributes](#)

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Structure General **Related Objects** History Collaboration

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Packages (7 of 7 total objects) View: All

<input type="checkbox"/>			Number	orgid	Revision	Name	Owner	Context	State	Last Modified
<input type="checkbox"/>			<a href="#">NAV-1234-CMR-001</a>	<a href="#">61875</a>	F	CM Status Report	walt	<a href="#">EDC</a>	Accepted	2008-09-23 08:52 EDT
<input type="checkbox"/>			<a href="#">NAV-1234-CMR-001</a>	<a href="#">61875</a>	C	CM Status Report	walt	<a href="#">EDC</a>	Accepted	2008-09-22 19:25 EDT
<input type="checkbox"/>			<a href="#">NAV-1234-CMR-001</a>	<a href="#">61875</a>	A	CM Status Report	walt	<a href="#">EDC</a>	Accepted	2008-09-22 17:09 EDT
<input type="checkbox"/>			<a href="#">NAV-1234-CMR-001</a>	<a href="#">61875</a>	G	CM Status Report	walt	<a href="#">EDC</a>	Sent	2008-09-23 09:22 EDT
<input type="checkbox"/>			<a href="#">NAV-1234-CMR-001</a>	<a href="#">61875</a>	D	CM Status Report	walt	<a href="#">EDC</a>	Accepted	2008-09-22 19:35 EDT
<input type="checkbox"/>			<a href="#">NAV-1234-CMR-001</a>	<a href="#">61875</a>	B	CM Status Report	walt	<a href="#">EDC</a>	Accepted	2008-09-22 17:36 EDT
<input type="checkbox"/>			<a href="#">NAV-1234-CMR-001</a>	<a href="#">61875</a>	E	CM Status Report	walt	<a href="#">EDC</a>	Accepted	2008-09-23 08:01 EDT

(0 objects selected)

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## Announcements

### Educational Resource Library

Learn things you always wanted to do - but didn't know you could.

This one stop educational resource library will help you learn more about PTC Solutions and provide you with technical materials developed by the product experts to help you become more productive.

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  - Conceptual and Industrial Design
  - Detailed Design
  - Simulation/Analysis
  - Production
  - Design Collaboration
- Windchill PDMLink
- Windchill ProjectLink
- Pro/INTRALINK
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[Tips & Techniques: Work Smarter Not Harder!](#)

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### **E-PROFILES IS HERE!!**

We have been eagerly anticipating the debut of the new electronic version of Profiles Magazine and now it is here! This new web site will supplement the print edition of the magazine and will

provide new useful features not feasible with paper media. e-Profiles will provide you with 24x7, worldwide access to key information previously available exclusively in the print version. "Tips & Tricks," a popular feature pioneered by Pro/USER, has also moved to the web and will be expanded as the site matures.

Please take a few minutes to check out this new web site. We don't think you will be disappointed.

<http://profilesmagazine.com/>

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## Upcoming Events & Training Class Schedules

Upcoming, 2008                      Your local Pro/Engineer User Groups  
<http://www.ptcuser.org/rugs/>

June 1 – 4, 2008                      Long Beach, CA USA  
PTC/USER World Event  
<http://www.ptcuser.org/>

### Events

Our seminars and conferences seek to provide you with relevant information regarding product development trends in your industry as well as innovative software learning experiences. Think of them as a constructive day off where you can share experiences and swap ideas with your peers.

If you can't manage to get away, we'll bring it to you. Check back often for regularly scheduled live webcast events.

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<http://www.ptc.com/services/edserv/index.htm>

### Live Instructor-Lead Virtual PTC Training Courses

Virtual Classrooms provide interactive learning with a trained PTC instructor in convenient and manageable sessions that last approximately 4 hours over a series of days. It's easy to join a class right from your desk using a phone or voice-over IP technology.

Sessions are performed just like a traditional ILT (including interactive exercises where you and the instructor can work on lab exercises together) and feature some of our most popular ILT courses. These sessions cover the exact same material as the traditional ILT in-center courses. Also look for some of our most frequently requested mini-topics delivered in the same format that are only an hour - two hours in duration.

If you have any questions about these sessions or would like to see getting other courses, not on this list, on the schedule please feel free to contact me for more details. They are a great way to bring training to you without you having to worry about location or being out from work for long stretches.

You can register for these sessions just as you would for any normal ILT class either by:

1. calling order admin at <http://www.ptc.com/services/edserv/training/registra.htm> or
2. you can go to PTC University directly at <http://www.ptc.com/learning> and submit a registration request directly. All you have to do is search the catalog by typing in “virtual” in the search field and you will see a listing.

## PTC

**Note:** This PTC E-Newsletter will continue to be used for the following:

- 1) Inform you on events related to PTC products (user groups, conferences, training schedules, etc.)
- 2) Educate you on solutions that are available at PTC
- 3) Tips & Techniques using PTC Products

**Note:** These messages are compiled in the local PTC office and will be distributed via e-mail.

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