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## PTC Product Focus

### The Impact of Windchill ProductPoint

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## PTC Product Focus

### Introducing Windchill Info\*Engine

In 1999, PTC acquired Auxilium, Inc. the makers of Info\*Engine. This web based tool for data acquisition and integration quickly became core capability and is increasingly utilized in each Windchill release.

Info\*Engine is a robust integration engine that offers standard out of the box adapters that directly connect Windchill applications with legacy and other enterprise systems. With its standards-based integration framework, Info\*Engine can also be easily “plugged into” a Service-Oriented-Architecture (SOA) or other enterprise integration architectural designs. The off the shelf adapters include database support (SQL, JDBC, ODBC), JNDI, JCA, and JMS. The architecture features synchronous and asynchronous operations, checkpointing, and robust, reliable transaction management with load balancing and parallel processing.

Although Info\*Engine itself has no user interface, the results of its use are ubiquitous in Windchill. For example, Info\*Engine is used in Windchill's search capability, federation to other Windchill and non-Windchill systems, web services and SOAP requests utilized by the various Workgroup Managers and the MSOffice Desktop Integration. One possible use is to create a simplified search user interface like the one pictured here. The JSP code behind this page

**Shop Floor Document Search**

**Filter**  Std Operating Procedure  
 Work Instruction

**Site** -- N/A --

**Customer** -- N/A --

**Part #**

**Rev**

---

Search Results

Type	Doc #	Doc Name	Doc Rev	Assy #	Assy Name	PBA Rev	Site	Customer	Project
WI	0000000373	M55-prod30 A.1		<a href="#">PDF</a>	M55-prod30	M55-prod30	M55-prod30	M55-prod30	M55-prod30

leverages Info\*Engine tasks that will query Windchill then format and return the results for display. Windchill Info\*Engine makes it easy to develop composite applications where data must be acquired from multiple systems and presented in a single user interface. Another use might be to add information from external systems to a Windchill workflow task screen. For example, to assist in decision support for a particular task, Info\*Engine could perform a real time query to an external system to present inventory or cost information inside the Windchill task UI. Info\*Engine tasks can also leverage the full Windchill API so the sky is the limit to its capability.

## XML Task Example

Info\*Engine uses standalone XML documents referred to as “tasks” that can contain one or more Info\*Engine “webjects” and Java code, including Windchill API calls. These tasks are compiled into Java classes to improve execution speed. Once compiled, the tasks are invoked via a URL:

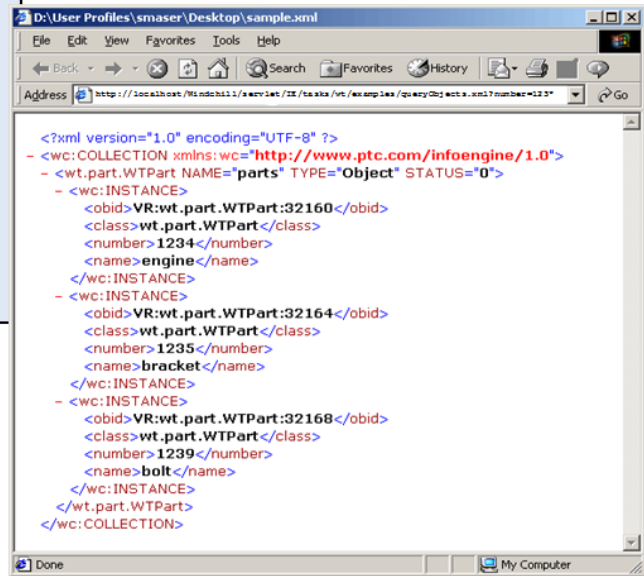
[http://localhost/Windchill/servlet/IE/tasks/wt/examples/queryObjects.xml?number=123\\*](http://localhost/Windchill/servlet/IE/tasks/wt/examples/queryObjects.xml?number=123*)

This URL would invoke a task stored in the Windchill loadpoint/tasks/wt/examples folder called queryObjects.xml and pass in a parameter called number with a value of 123\*. Assuming that queryObjects.xml contained the Info\*Engine webject “Query-Objects” as pictured here, the returned output to the browser would be an XML structure similar to what is shown on the next page.

The data is returned in an Info\*Engine group that can be subsequently operated on for further processing or formatting. Webjects exist that can format HTML and also do XSL translation. In fact there are many out of the box webjects supplied with Info\*Engine. For example, there are webjects for adding content to Windchill objects, checking objects in and out, creating, updating, moving, and deleting objects, emitting events, subscribing and unsubscribing to objects,

```
<%@page language="java"%>
<%@taglib uri="http://www.ptc.com/infoengine/taglib/core" prefix="ie"%>
```

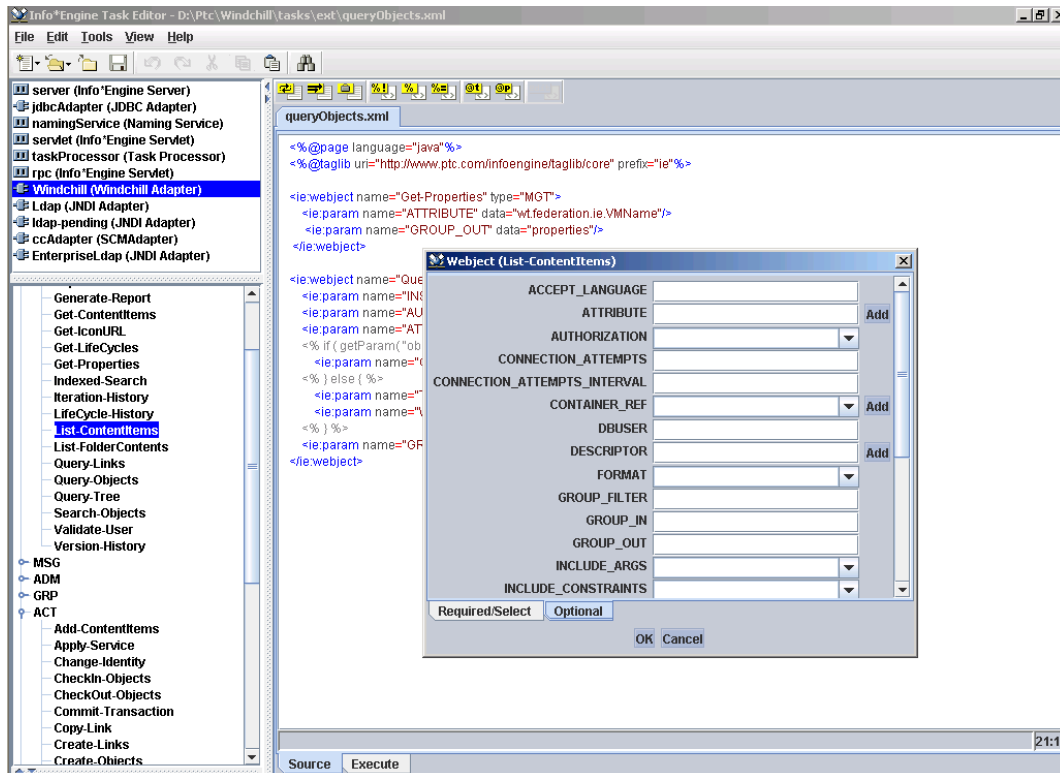
```
<ie:webobject name="Query-Objects" type="OBJ">
  <ie:param name="INSTANCE" data="windchill"/>
  <ie:param name="CLASS" data="wt.part.WTPart"/>
  <ie:param name="Attribute" data="name,number" delim=","/>
  <ie:param name="WHERE" data="(number='${@FORM[number]}')"/>
  <ie:param name="GROUP_OUT" data="parts"/>
</ie:webobject>
```



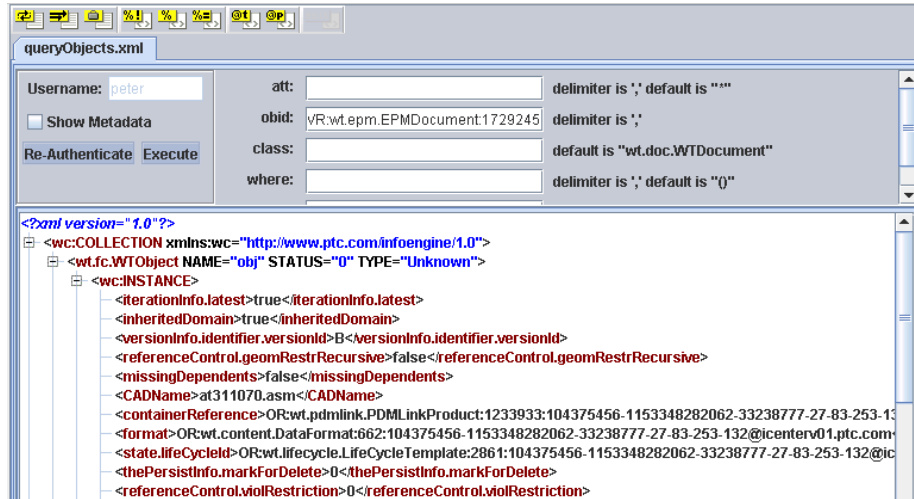
querying for objects and their relationships to other objects, listing contents, accessing lifecycles and workflow histories, generating reports, etc. The Info\*Engine User's Guide and the Windchill Adapter User's Guide has a complete list with descriptions of each webject along with the procedure to create your own custom webjects for special purpose functionality.

## Integrated Development Environment

Included with Windchill is the Info\*Engine Task Editor, an integrated development environment specifically designed to aid developers in creating new tasks. This tool is located in the Windchill loadpoint in the taskeditor folder and looks like this:

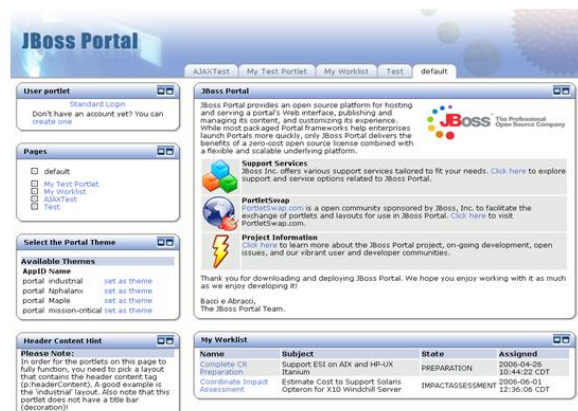


The task editor has multiple resizable panes to customize the work area. The lower left pane contains a list of available webjects that can be placed simply by double clicking a location in the authoring pane on the right. The selected webject's required and option parameters will be shown (as pictured above) to assist in the completion of the webject. The task editor also sports an execution environment that is dynamically configured to present the inputs required by the task being edited. Results returned by the webject are displayed in the main pane.



Since Info\*Engine has many advanced webjects and can also leverage the Windchill Java API, it is possible to do advanced processing with this remarkable tool. For example, one customer recently used a series of Info\*Engine tasks to systematically remove secondary content from every occurrence of a particular object type. This involved querying for the objects by type, filtering the results to only those objects with secondary content, creating a workspace and checking the objects out, removing the secondary content, checking the objects back in and reporting results of each object modified. All in a single XML task file invoked via a URL!

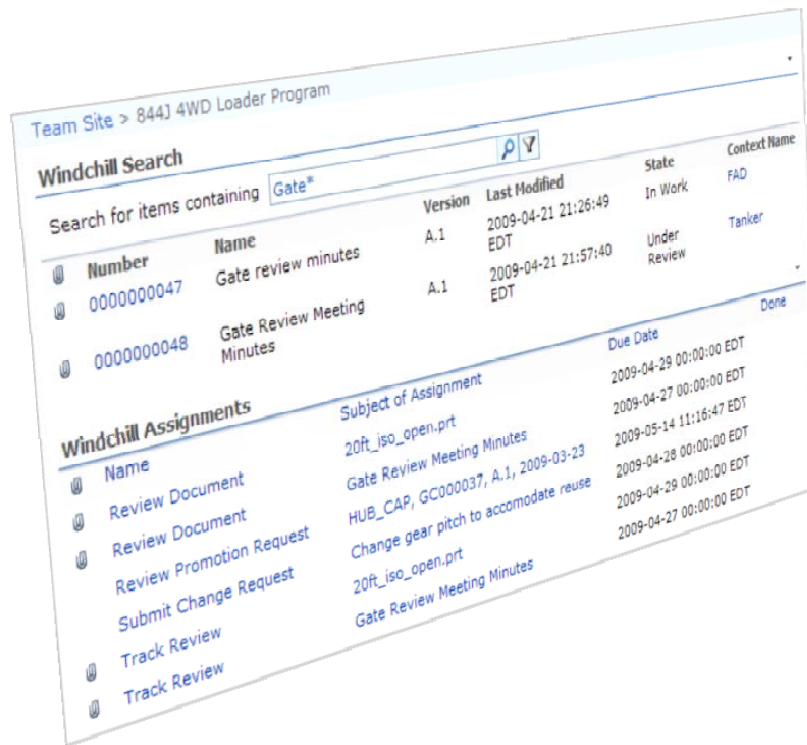
Info\*Engine also includes the ability to automatically expose any task as a Web Service making it easy to plug Windchill into an existing SOA or use Windchill as an Enterprise Service Bus. Info\*Engine is compliant with the JSR-168 framework and can be accessed from corporate portals. This example shows a user's Windchill task list in a JBoss Portal screen:



Name	Subject	State	Assigned
Complete CR Preparation	Support ESI on AIX and HP-UX Itanium	PREPARATION	2006-04-26 10:44:22 CDT
Coordinate Impact Assessment	Estimate Cost to Support Solaris Opteron for X10 Windchill Server	IMPACTASSESSMENT	2006-06-01 12:36:06 CDT

Windchill Info\*Engine also forms the basis of ERP Connector, a set of capabilities to export Windchill information such as parts, Bills of Materials (BOMs), Enterprise Change Notices (ECNs) and documents. Distribution targets for ERP Connector can be ASCII files, email, FTP and Web Services.

Info\*Engine is also a key component in the new Windchill Web Parts for Sharepoint that allow valuable Windchill information to be displayed natively in Microsoft SharePoint.



The first release of Windchill Web Parts include Windchill Search and Windchill Assignments as shown here. Many more Web Parts are under development and will be released soon. There is tremendous value in allowing casual users to interact with product development data controlled in Windchill PDMLink in an easy to use, familiar user interface provided by SharePoint. With the MSOffice Desktop Integration, users can search for, checkout and download a document into Microsoft Word, edit the document and check it back into PDMLink right from within Word! For users that need access to drawings or 3D engineering models, the Windchill Search Web Part delivers results that include links to PTC's breakthrough visualization tool ProductView. This allows casual users vital access to controlled engineering information right from SharePoint.

As you can see, Windchill Info\*Engine is a powerful, web-based data acquisition and integration tool that is at the very heart of many critical Windchill capabilities. Please visit the information page on ptc.com for more details:

<http://www.ptc.com/products/windchill/info-engine>

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## Tips of the Month

### Notes Wiki Can Improve Design and Reuse

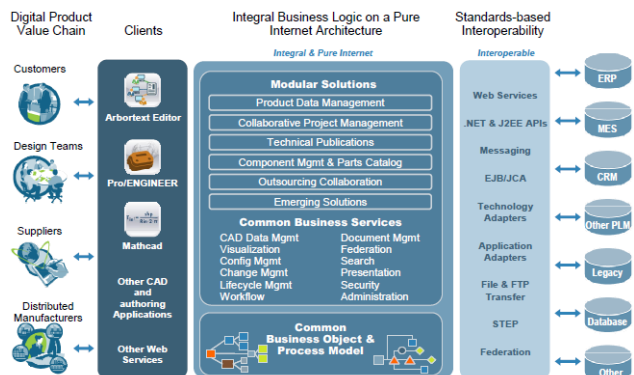
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## Tips of the Month

### Resources for Windchill Administrators

The Windchill product family by PTC provides a modern, highly scalable infrastructure on which customers can deploy critical product development capabilities. Windchill's advanced J2EE based architecture hosts a common business object and process model on which the critical business services operate to provide entitlements such as CAD data management, visualization, change and configuration management, lifecycle and workflow, security and administration, etc. PTC has analyzed the processes required for our customers to design and deliver great products to their customers and built powerful applications on top of this infrastructure. To a new administrator, managing this infrastructure can be a little intimidating at first. The goal of this month's product focus is to introduce a few of the resources available to assist new and tenured Windchill administrators with the installation, configuration, and maintenance of their systems.



### Installation and Configuration Resources

Windchill Installation and Configuration Resource Page <http://www.ptc.com/go/install-windchill>

The Windchill Installation and Configuration Resource page includes details about determining hardware requirements, planning a deployment, understanding architectural requirements to achieve access and scalability goals, and advanced configuration information.

Administrators can also find information on bulk data loading, system monitoring, and best practice considerations for backup, recovery, and archiving. Need to deliver a system capable of supporting a global product development effort? This page also includes a Technical Brief on deploying Windchill's advanced vaulting and content replication capabilities.

In the performance tuning and validation section of this page, administrators will find Technical Briefs on Windchill System Validation as well as using WAN accelerators with Windchill. A



document co-authored by PTC and Cisco on deploying distributed research and development solutions utilizing Windchill PDMLink and Cisco Advanced Networking Services devices is available for download on this page. There are also datasets and instructions to assist administrators in benchmarking Pro/ENGINEER data management performance available for download directly from this page.

At the bottom of the page are links to the PTC eLearning library so administrators can quickly locate related training material.

## Upgrade and Migration Resources

Planning an upgrade? The Windchill® Upgrade and Migration Resource Page has information that can help: [http://www.ptc.com/view?im\\_dbkey=96752](http://www.ptc.com/view?im_dbkey=96752)

Path	Your Current Solution	Process	Your Target Solution
A	Windchill 9.0	Update	Windchill 9.1
B	Windchill PDMLink 7.0/8.0 Windchill ProjectLink 7.0/8.0 Pro/INTRALINK 8.0	Upgrade	Windchill PDMLink 9.1 Windchill ProjectLink 9.1 Pro/INTRALINK 9.1
C	Pro/INTRALINK 3.x	Migration	Windchill PDMLink 9.x Or Pro/INTRALINK 9.x
D	FlexPLM 7.0	Upgrade	Flex PLM 9.0 or 9.1
E	Windchill 9.1 on Oracle Database	Migration	Windchill 9.1 on Microsoft SQL Server Database
F	Windchill Foundation 7.0/8.0	Upgrade	Windchill PDMLink 8.0

This resource page includes information related to upgrading to a newer version of Windchill. Also on this page are documents that can assist with upgrade planning, rehosting, platform support and software compatibility matrices.

Many of the “Read This First” documents are downloadable directly from this page to give administrators quick access to enhancements and fixes in the target release as well as an overview of the upgrade process.

Several diagnostic tools are also available for download from this page including the Windchill Diagnostic Utility (WinDU) and the Evolvability Diagnostic Utility (EDU).

The Update Advisor can be used by administrators to determine what has changed from release to release. The tool allows for input of current and target releases of a given PTC product and will return a list of fixes

Solution	SPR	Title	Module
139859	1410201	The Type Manager Applet Displays Some Value Constraints In A Foreign Language.	Administrati System
140734	1453213	Creating a ProductView meeting result in that the invitation e-mail to participants won't be sent out from the server.	Administrati System
141443	1332312	ORA-04031 Error May Occur When a User Who Belongs to	Administrati

implemented by the target release. And just like on the installation and configuration page, there are links to the Windchill eLearning Library of courses and PTC University.

## **Video Resources**

Also visit the PTC Studio page for other interesting videos about features, functions, and the use of PTC products: <http://www.youtube.com/user/ptcstudio>

## **PTC/User Resources (<http://www.ptcuser.org>)**

PTC/User is the official user organization for people who use PTC products. This year the conference will be held in Orlando Florida from June 6-9. This is a fantastic way for Windchill administrators to network with their peers and learn more about maintaining their Windchill installations. The PTC/User website includes highlights from last year (including downloadable presentations), upcoming activities lists, and ways to help justify the cost of attending the conference.

## **Consulting Resources**

Finally, administrators can always count on PTC Global Services or one of the many PTC Strategic Services Partners to assist with installation and configuration or upgrade and migration projects. Years of experience combined with proven methodologies can help mitigate project risk and ensure on time delivery. Contact your PTC Account Manager for more information.

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## Announcements

### PTC Tips & Techniques Newsletter Archives

Did you miss an issue? Can't find that awesome technique you read about? Fear not, you can click on the link below and go through our Customer PTC E-Newsletter archives.

[Customer Care Zone](#)

### PTC Tips & Techniques Webcasts: Work Smarter. Not Harder.

Click below to see regularly scheduled Tips & Techniques technical Webcasts that are designed to provide you with the most popular time-saving tricks that Pro/ENGINEER users of all skill levels will find useful. Get more out of your maintenance dollars!

[Tips & Techniques: Work Smarter Not Harder!](#)

### Special Hardware offers for PTC Customers

- <http://www.hp.com/go/ptc>
- <http://www.hp.com/go/ptcworkstation>

### PTC Sponsored Events

- <http://www.ptc.com/company/news/events/index.htm>

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Explore what is new with the Pro/ENGINEER Wildfire family!

<http://www.ptc.com/go/showcase>

Connect with PTC using the latest Social Networking resources:

 facebook



 Linked in

 You Tube

Also visit <http://social-product-development.blogspot.com/>

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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, 2009                      Your local Pro/Engineer User Groups  
<http://www.ptcuser.org/rugs/>

June 6 – 9, 2010                      Orlando, FL 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.

[You're Invited to Attend...](#)

Please visit the [PTC Education Services](#) website for the latest training information including course descriptions, schedules, locations, and pricing.

- Attend a course at any PTC Center and receive a **free** copy of Pro/ENGINEER Wildfire Student Edition!

<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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