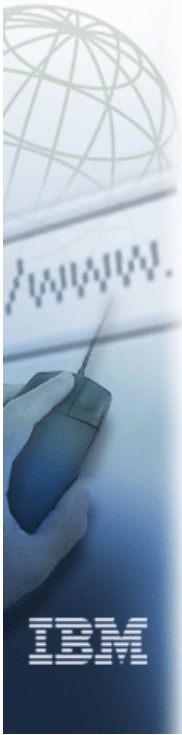




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Model-driven Process Automation

Enabling adaptive integrated e-businesses

**Lotus Domino Workflow
and
IBM MQSeries Workflow**



IBM

Lotus

Workflow is quickly becoming a key technology for enabling adaptive and integrated e-businesses.

IBM and Lotus offer comprehensive workflow products for model-driven process automation, building upon the success of IBM MQSeries products for business integration and Lotus Domino for knowledge worker interaction.

This presentation positions MQSeries Workflow and Domino Workflow for end-to-end process automation, and explains how customers can use them together.

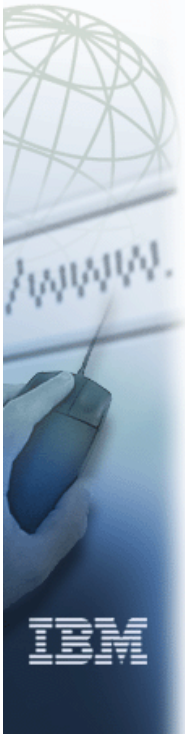


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Workflow Technology

- **B2B and B2C processes need workflow-driven streamlining. From self-service models to B2B transaction negotiation, workflow can be the underlying engine delivering a state-aware process-focused control service for e-business applications and users.**

[Gartner, 12/99, Why e-Business Craves Workflow](#)



Lotus

As e-business becomes increasingly important, so does the requirement to streamline processes that integrate previously independent applications and organisations, both within and beyond the enterprise.

When you're automating complex processes (like consumer self-service in a distributed IT environment, or negotiating transactions between multiple business partners), you need the system to monitor the state of each step in the process, so that control can be passed to the next step. This is an important function of workflow.

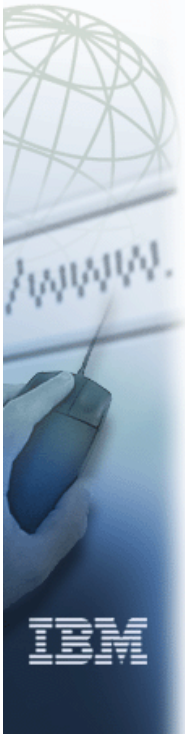
Gartner has captured this trend eloquently in a recent research note.



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The requirements of e-business

- **e-business will be a convergence of integrated decision making and operational processes which seek to integrate people, processes, and systems within, across and beyond the enterprise**
 - ▶ Efficient processing of customer requests through repeatable, precise, and controlled processes
 - ▶ Allows workers to evaluate, decide, and escalate issues for customers in a highly effective manner



Lotus

e-business increases business and workload, which highlights the need for efficient and consistent management of integrated processes (especially those that service customers), throughout the enterprise and out to partners.

Successful e-business organizations will integrate and strengthen both their operational processes and their decision making processes.

These two types of equally important processes differ in their participants, applications involved, and the degree of automation achievable and the degree of flexibility needed.



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e-business Requirements

■ Business processes span multiple applications

- ▶ A single purchase order drives a series of transactions involving order entry, budgeting, logistics, and inventory systems - but manual and batch processes between these steps add days or weeks to delivery schedules
- ▶ Internet commerce and extended supply chains require tight but flexible integration between trading partners

Forrester, 3/99, Integrating Business Processes

The IBM logo, consisting of the letters 'IBM' in a bold, sans-serif font, positioned at the bottom of a vertical sidebar image. The sidebar image shows a hand holding a mouse, a globe, and a computer screen with a URL.

IBM

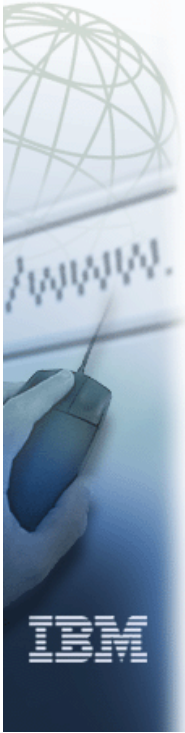
The Lotus logo, consisting of the word 'Lotus' in a white, sans-serif font, set against a black rectangular background with yellow accents on the left and right sides.

Lotus

Operational processes drive a series of transactions, tightly integrating applications and automating the flow of data between them - in realtime. Customer driven automation can significantly improve cycle- and hence delivery time.



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e-business Requirements continued

■ Decision processes are key to Business Optimisation

- ▶ Every operational process has a corresponding decision process that evaluates choices and improves execution.

■ Imperatives for Success

- ▶ Pushed out to the frontlines
- ▶ Managed to meet corporate objectives
- ▶ Extended to customers and business partners

Forrester, 6/99, Front-Line Decision-Making

Lotus

Decision making processes allow the capture of human judgement for influencing process flows that cannot be fully automated by application functions and predefined process rules.

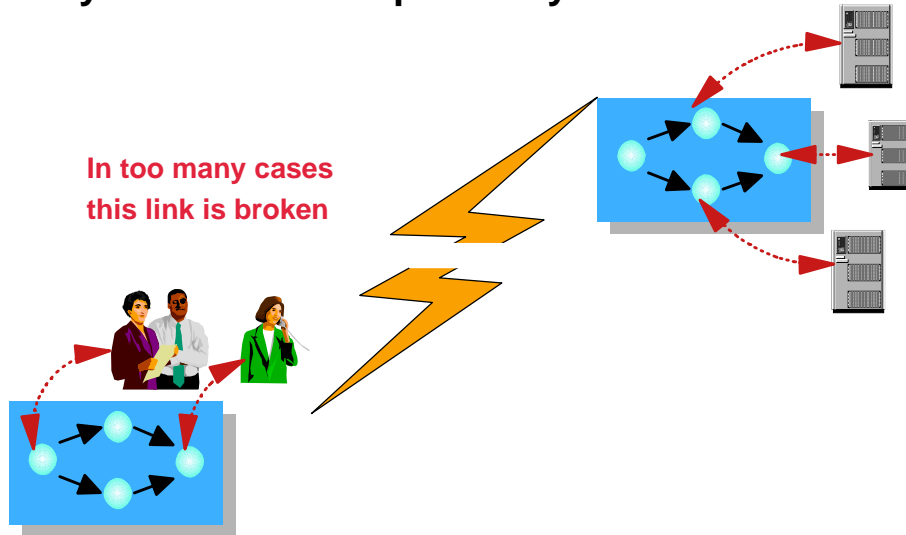


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End-to-end Process Automation

Few workflow solutions focus on integrating people with systems in an adaptive way

In too many cases
this link is broken



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End-to-end process automation requires the integration of operational and decision making processes, Plus flexibility based on user choices and data, exploitation of the systems and applications involved, fast adaptation to changing processing needs.

That is, workflow solutions need to integrate people with systems in an adaptive way.

Much of the debate about workflow in the past has been on the type of workflow each vendor provides: Is it production, or is it ad-hoc (low repetition, high value)? Many organizations now realize that this separation is much less relevant than how well the workflow can be integrated with the rest of the IT environment. Now, organizations are looking for workflow solutions that focus on both the decision and operation aspects of their organization and integrate adaptively with the respective systems that support these processes.

Yet, for too many organizations, this link is broken: Operational process do not communicate with decision processes - and vice versa. Often, the inhibitor is merely the technology. IBM and Lotus have the reach and the breadth of products and product integration to bridge this gap.

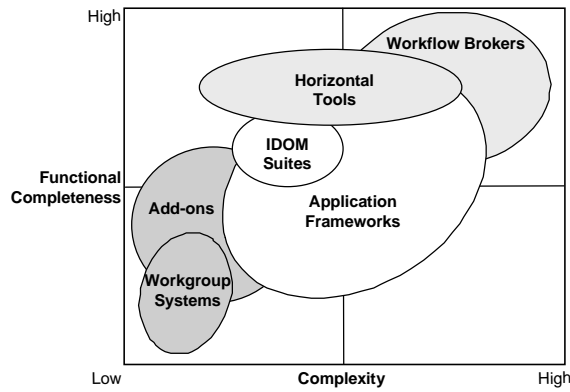


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Who's the Competition?

■ Three submarkets:

- ▶ Application Integration Centric
- ▶ Embedded
- ▶ User-Centric



Source: Gartner/U.S. Symposium/October 1999

- Workflow for the Masses
- Application-Specific
- Business Utility

■ MQSeries Workflow:

- ▶ Vitria, Tibco/InConcert, ...
- ▶ HP, Oracle, ...

■ Domino Workflow:

- ▶ MS, Collaborative Add-Ons
- ▶ Keyfile, Action, JetForm, ...

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The following workflow submarkets have evolved:

Workflow brokers, such as MQSeries Workflow, focus on the integration of enterprise application systems and their users for the model-driven automation of operational business processes throughout distributed IT environments.

Workflow is embedded in individual applications or application suites, such as SAP R/3. User-centric workflow systems, such as Domino Workflow, focus on the support of knowledge workers with model-driven decision processes.

Boundaries between these segments may be somewhat blurred from a pure technology perspective, as most workflow engines support some degree of user interaction and some application connectivity, and may be embedded in packaged solutions.

But the segments are very relevant in terms of packaging, application reach, functional focus, and ease-of-integration with the respective environment.



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End-to-end Process Automation

MQSeries Workflow

- Automation Focus
- Clerical
- Supply-line

Application Integration
Centric

People to
Applications

People Centric

Domino Workflow

- People Interaction
- Knowledge Worker
- Front-line



Enabling end-to-end process automation, IBM offers two focused products for the respective market categories: MQSeries Workflow and Domino Workflow.

MQSeries Workflow has a focus on automating the process-driven flow of data throughout distributed systems and their users, integrating the applications needed to supply the service requested.

Domino Workflow focuses primarily on workflow between knowledge workers. Instead of automating people out of the process, it optimizes people interaction. Domino Workflow supports the front-line workers' decision processes.

Both types of workflow require a high level of adaptiveness to the surrounding application services, and the ability to drive processes supporting the needs of its customers.



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Domino Workflow

- **Focused on knowledge and people**

- ▶ Structured processes with human knowledge, judgement and collaboration while linking some backend application system

- **Combines process control with flexibility**

- ▶ Change processes on the fly

- **Built on collaborative application services - Domino**

- ▶ Easily build adaptable user interfaces
- ▶ Rapid application development, leveraging forms, documents and binder management



Focus on Knowledge and People

Domino Workflow focuses on supporting the interaction of knowledge workers in structured processes and eventually linking some other (application or workflow) system.

[The business processes consist of routing rules that define the steps to be worked on, the sequences of these steps, conditions to be applied etc. People are involved in the processes based on their organizational context, the roles they have been assigned to, the departments and workgroups that they belong to, delegation rules that have been defined, etc.. Finally, there are the work items or information objects or documents that "travel" throughout the workflow and the applications that are used.]

Combines process control with flexibility

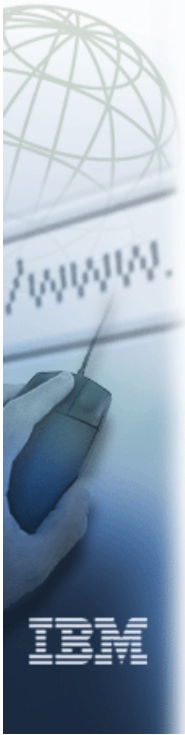
An easy to use visual interface immediately displays your work processes so you can design and edit on the fly. You can analyze, monitor and display bottlenecks so you stay ahead of your schedule and ahead of your competition.

Built on collaborative application services

The engine is completely integrated with Domino, so it takes advantage of all the great things about Domino. Workflows developed in Domino Workflow use the robust Domino infrastructure (security, replication, directories, management and administration). This means you have secure workflows that leverage all the investments that you've already made in your enterprise. It also uses any forms you may have developed using Domino Designer, so there will be no change to your users since they will continue to see the familiar forms they use to get their work done.



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MQSeries Workflow

- **Focused on automation and integration**

- ▶ Repeatable, precise, and controlled processes spanning application boundaries while also supporting human interaction

- **Combines process control with transactions**

- ▶ Ultra-reliable process automation with transactional throughput

- **Built on business integration middleware - MQSeries**

- ▶ Naturally integrates applications via MQSeries messaging
- ▶ Rapid application integration, leveraging customizable user clients and messaging-based integration tooling

Lotus

Focus on Automation and Integration

MQSeries Workflow focuses on the automation of repeatable, precise and controlled processes, integrating applications and their data, and supporting human input into process flows when needed.

Combines process control with transactions

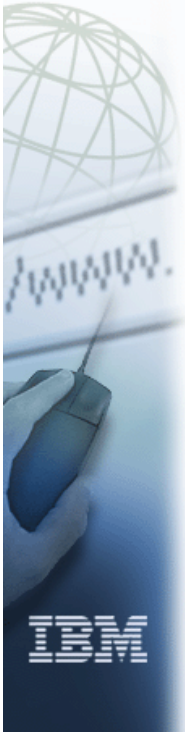
Exploiting the transactional features and guaranteed delivery of MQSeries messaging, MQSeries Workflow adds high performing model-driven process control to distributed transactions making sure nothing gets lost, or executed twice across distributed units-of-work. Even after a system failure, MQSeries Workflow knows exactly where to resume processing. And it supports the demanding throughput requirements expected from an automation system.

Built on business integration middleware

Built naturally to MQSeries application standards, MQSeries Workflow adds process automation capabilities to the network. Exploiting MQSeries Integrator can significantly simplify application integration. Adding process automation as an integration service allows rapid accommodation of process changes without having to modify application code.



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How they work together

- **Leverages the value your solution today, offers growth for tomorrow**

- **Today**

- ▶ XML bindings for process controls
 - Customers may use this to connect both products, possibly more than once even within the same end-to-end process
- ▶ Common client platforms
 - Web browsers and Notes clients

- **Tomorrow**

- ▶ Industry standards based XML interface to provide tight integration within process flows
- ▶ Common directory strategy - converge around LDAP



IBM and Lotus are working to ensure as tight a communication as possible between the workflow engines. In whichever environment you start, IBM and Lotus are committed to enabling customers to leverage their investment as they expand their solution set.

Programmatically, XML is the vehicle for doing this.

Today, *Domino Workflow uses XML* to initiate and receive results from processes designed in other workflow engines.

Furthermore, *Domino supports interfaces to MQ Series*, the underlying architecture for MQSeries Workflow.

MQSeries Workflow uses XML to integrate applications via MQSeries; applications that may trigger a workflow process, and applications that are integrated into a workflow process.

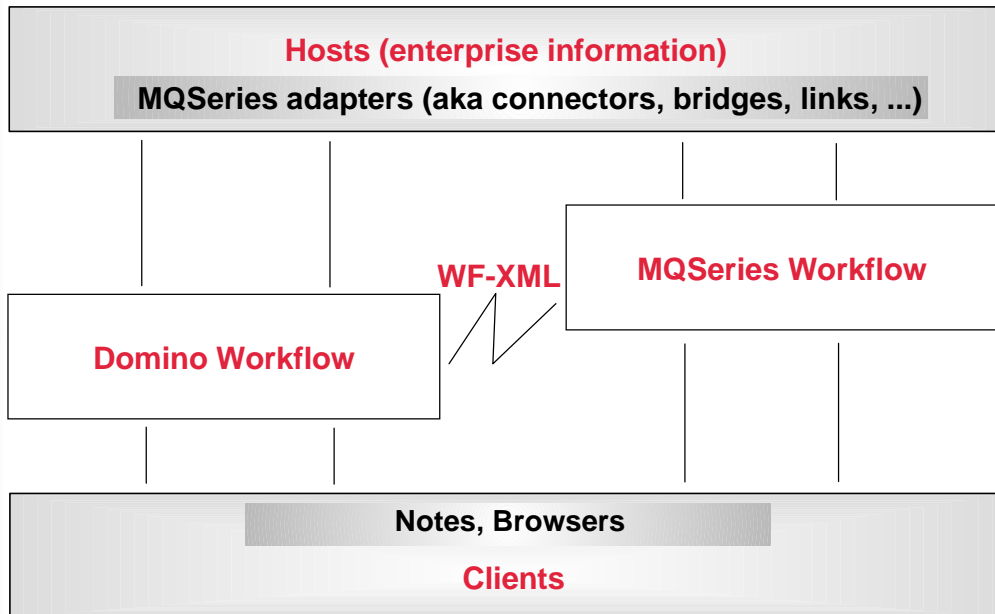
Thus, Domino and Domino Workflow can be integrated as an application into processes automated by MQSeries Workflow. In addition, MQSeries Workflow and Domino Workflow both support web browsers and Lotus Notes as *commonly supported user desktop platforms* - hence users can work with both workflow systems from such desktops.

IBM and Lotus are further working together to ensure tighter workflow integration between MQSeries Workflow and Domino Workflow; with more direct access to shared directory information via LDAP. This will support more rapid development of joint solutions between the two products.



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Application & Integration Servers



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Adding workflow capabilities to the Lotus Domino application server and IBM's MQSeries business integration middleware helps you to fully automate your entire environment. The picture shows technically how the two products offer workflow services in different parts of the IT infrastructure and how they can be linked.

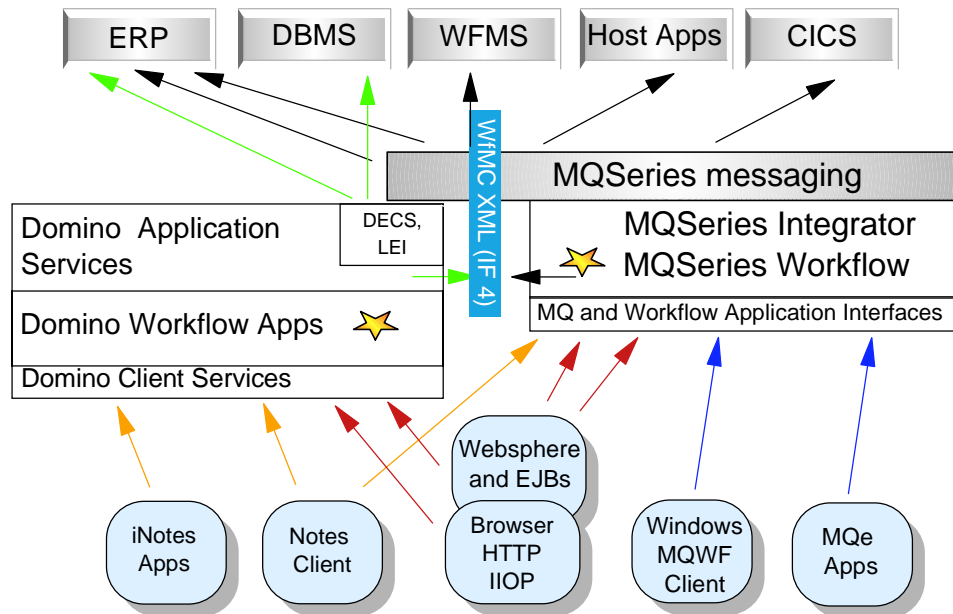
- On the client side, both support web and Notes clients.
- On the application side, both support integration via MQSeries.

Domino Workflow has more affinity to knowledge worker environments, whereas MQSeries Workflow has more affinity to transactional application integration.



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Application & Integration Servers



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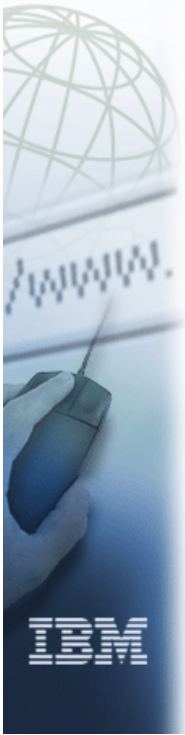
Lotus

On the next level of detail, Domino Workflow adds workflow capabilities to the Domino application server, with strong support for user interaction and Domino's application services and leveraging Domino's application connectors (many of which actually use MQSeries).

Whereas MQSeries Workflow adds a process broker to the MQSeries integration middleware, with strong support for transactional application integration and also providing complementary and customizable workflow user interface controls using industry standard technologies.



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Summary

- **IBM and Lotus have offerings available to cover and integrate the broad range of workflow segments**
- **Both, Domino Workflow and MQSeries Workflow, are leading products in their respective segments**
 - ▶ Key technology for the adaptive e-business
 - ▶ Leverage and extend established collaboration and integration platforms
 - Domino: helps people doing their work and enhances organisational effectiveness
 - MQSeries: reliably linking and enhancing applications in a distributed system, by transparently adding intelligent IT and business services
- **We have integration available between the two, that allows you to leverage the investment no matter where you start**

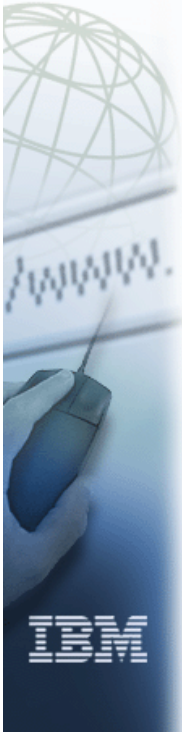
In short, the IBM Workflow strategy is based around 3 basic claims.

- **Broad offerings**
- **Market leadership**
- **Leverage of investment**

If customers automated all of their processes immediately, they would probably want to use both products right away. And we offer integration between both, allowing you to leverage the investment no matter where you start.



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Typical Usage Examples

■ Hiring Process

- ▶ Approvals --> Domino Workflow
- ▶ Invitations and scheduling of interviews -> Domino Workflow
- ▶ Add employee to payroll and other systems -> MQSeries Workflow

■ Claims Processing

- ▶ Access customer relationship db, securities, imaging -> MQSeries Workflow
- ▶ Approval processes and document tracking -> Domino Workflow

■ B2B and e-Commerce

- ▶ Integration focus, transactional integration -> MQSeries Workflow
- ▶ Java application development -> MQSeries Workflow
- ▶ Domino development (Web deployment) -> Domino Workflow
- ▶ People-facing applications supporting knowledge worker response systems -> Domino Workflow

Lotus

Considering complete end-to-end processes often leads to the identification of subprocesses that require multi-step transactional application integration and others that require multi-step knowledge worker interaction.

Correspondingly, MQSeries Workflow and Domino Workflow may be used for either part leveraging their respective unique integration strengths to accelerate deployment of the final solution.



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Process Automation Needs

<i>Automatic Backend Transactions</i>		
<i>Human Interactions</i>	Many	Some, few
Knowledge Worker Interactions	Domino Workflow and MQSeries Workflow	Domino Workflow
Clerical User Interaction	MQSeries Workflow	MQSeries Workflow or Domino Workflow

Depending on the processes to be automated, customers may want some guidelines on which product to use for a specific solution. The decision should be guided based on the type of human interactions to be supported and the quantity of automatic transactions to be integrated.

This chart shows a decision table for choosing whether to begin with Domino Workflow, MQSeries Workflow or both. MQSeries Workflow is ideal for solutions which have a high requirement to bring together disparate backend systems. Domino Workflow is ideal for solutions which have a high requirement for human interaction.

As you can see, the greater the requirements for both of these needs, the more likely the scenario that customers will want both.



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Processes - Workflow - IBM/Lotus!

Find more information on our Workflow products at

www.software.ibm.com/ts/mqseries/workflow
www.lotus.com/home.nsf/welcome/domworkflow

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