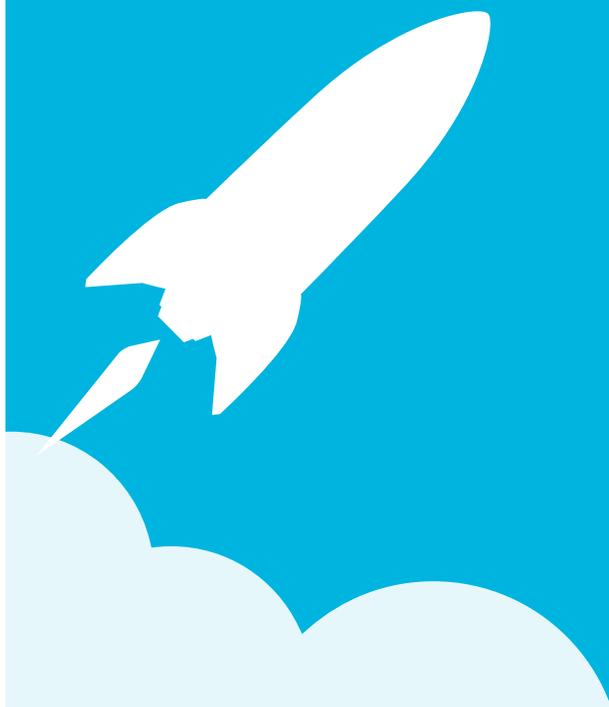




K2 Appet for SharePoint and SharePoint 2013

TECHNICAL COMPARISON



SharePoint 2013 includes some improvements to its workflow capabilities, including an independent workflow engine called Workflow Manager 1.0. The new engine separates workflow functionality from other SharePoint services and provides new runtime capabilities. However, despite the addition of new features, workflow in SharePoint 2013 remains limited in many scenarios, so it is important to understand what capabilities are available, what limitations exist and why it might be necessary to turn to 3rd party workflow software, like K2 Appit for SharePoint, to build SharePoint-based workflow and forms apps that meet your needs.

This paper compares how basic workflow and business apps capabilities, including data integration, forms, workflow and management, are handled with both out-of-the-box SharePoint 2013 capabilities and K2 Appit for SharePoint.

OVERVIEW

K2 Appit for SharePoint is for building workflow and forms applications based on SharePoint lists and libraries. All the capabilities and features included in Appit have been optimized toward providing SharePoint users, both technical and non-technical, with an intuitive, easy-to-use experience that provides more powerful capabilities than other SharePoint-based tools, without the need for custom code.

The incremental benefits of using K2 Appit for SharePoint to build SharePoint-based applications are:

- **DATA INTEGRATION** - Appit's data integration capabilities are built using the K2 SmartObject framework, allowing you to integrate with a wide variety of line-of-business systems without writing code. K2 SmartObjects are reusable across all applications, are secure, and maintain data integrity by keeping data in its system of record.
- **APPLICATION FORMS** - SmartForms are K2's easy-to-build forms that are reusable, full-featured and provide the ability to display important information, from multiple LOB systems, in a single interface.
- **WORKFLOW DESIGN** - K2 Appit for SharePoint provides a workflow design environment that is more flexible, and provides more out-of-the-box capabilities than SharePoint. No code is required and workflows can be reused across any application.
- **EXECUTION** - The Appit server is designed to run any size application, allowing organizations to run smaller, departmental solutions as well as mission-critical, enterprise-wide applications from the same server.
- **MANAGEMENT AND ADMINISTRATION** - Visual interfaces and management tools provide application administrators with everything they need to ensure applications are running smoothly, without having to dig through complicated error logs.
- **REPORTING AND ANALYTICS** - K2 Appit for SharePoint provides out-of-the-box reports that can be easily customized, without code, to display information that is important to end users and application administrators alike.

DATA CAPABILITIES

Data is at the core of your business and your applications, so it's important to understand how it is accessed, how users will view and interact with it and what security measures are in place to ensure your data is safe. Below is a comparison of how K2 AppIt for SharePoint and SharePoint 2013 handle data integration within workflows and forms.

The screenshot displays a SharePoint 2013 interface within a browser window. The address bar shows the URL <https://renierdemo.sharepoint.com/K2Pages/DispForm>. The Office 365 navigation bar includes links for Outlook, Calendar, People, Newsfeed, OneDrive, Sites, and Tasks. The main content area is titled "HR printer out of order" and is divided into two main sections:

- View Issue (Left Section):** This section contains a form for viewing an issue. The title is "HR printer out of order". The account is "Adventure Works (sample)". The due date is "Tuesday, June 3, 2014 12:00:00 AM". The priority is "(2) Normal". The issue status is "Resolved". The category is "Software". The description is "The printer in the HR department is out of order, no documents can be printed". The comments section contains the text: "Printer has been replaced with a new printer, please try printing your documents again."
- Account Details (MS CRM Online) (Right Section):** This section displays details for an account. The account name is "Adventure Works (sample)" and the account number is "ABC28UU7". The description is "Adventure Works Cycles, the fictitious company on which the AdventureWorks sample databases are based, is a large, multinational manufacturing company. The company manufactures and sells metal and composite bicycles to North American, European and Asian commercial markets. While its base operation is located in Bothell, Washington with 290 employees, several regional sales teams are located throughout their market base." The address is "4405 Balboa Court, Santa Cruz, TX, 95486, U.S.". The number of employees is 4,300, and the annual revenue is \$60,000.00. The web site is <http://www.adventure-works.com/>.

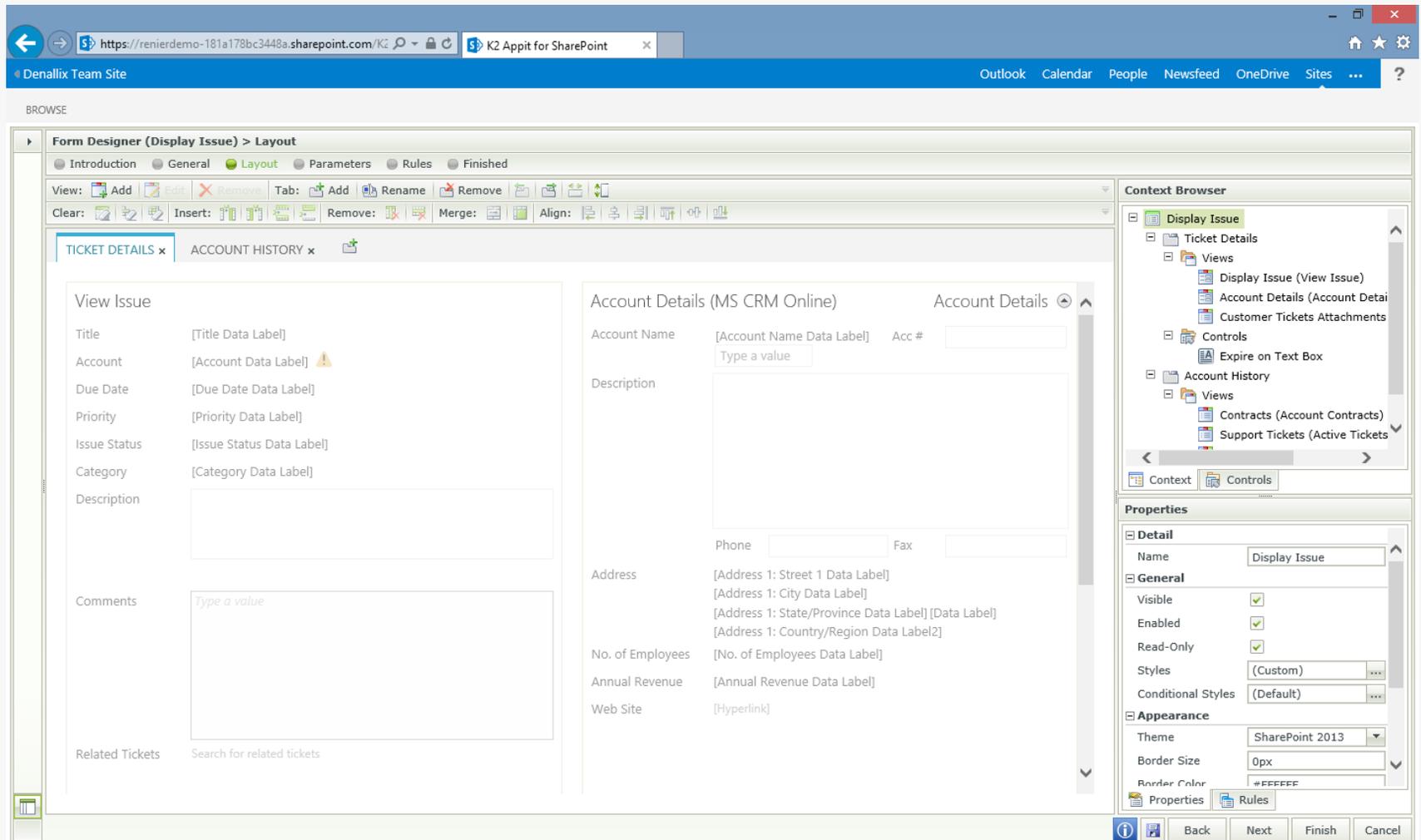
The interface also features a left-hand navigation pane with options like Home, Notebook, Documents, and Site Contents. A bottom navigation bar includes "Related Tickets" and "Search for related tickets".



	K2 Appit for SharePoint	SharePoint 2013
Can SharePoint data from other sites, site collections, farms or SharePoint versions (SP 2013 or SP Online) be accessed from a single application?	Yes, SharePoint data is made available via the K2 SmartObject architecture, allowing you to access SharePoint data no matter where it lives.	No, only data within the site where the workflow or form lives can be accessed.
Can data from other line-of-business systems be used?	Yes. Out-of-the-box support for SQL Server, Microsoft Dynamics CRM and Web services allows access to virtually any system, without the need for code.	Yes, Web services calls are supported, but require a developer to write the appropriate code.
How is security handled?	The SmartObject framework uses the security of the underlying LOB system.	The Web services used to access LOB data will need to be written to handle security requirements.
Will my application have real-time access to LOB data?	Yes, the SmartObject framework provides direct, real-time access to any LOB system. Data is never copied into the Appit server or databases.	No, data is copied into the application for use in each instance. Refreshing the data is not automatic but can be added to the application manually.

FORMS AND INTERFACES

Connecting to information at the source, in real-time, is important but it only gets you halfway to a business application. Equally important is the ability to create forms that can display information in a way that makes data easy to alter and use to make good decisions. K2 Appit for SharePoint makes it easy for non-technical users to create intuitive forms that combine the power of data and workflow, without writing code.

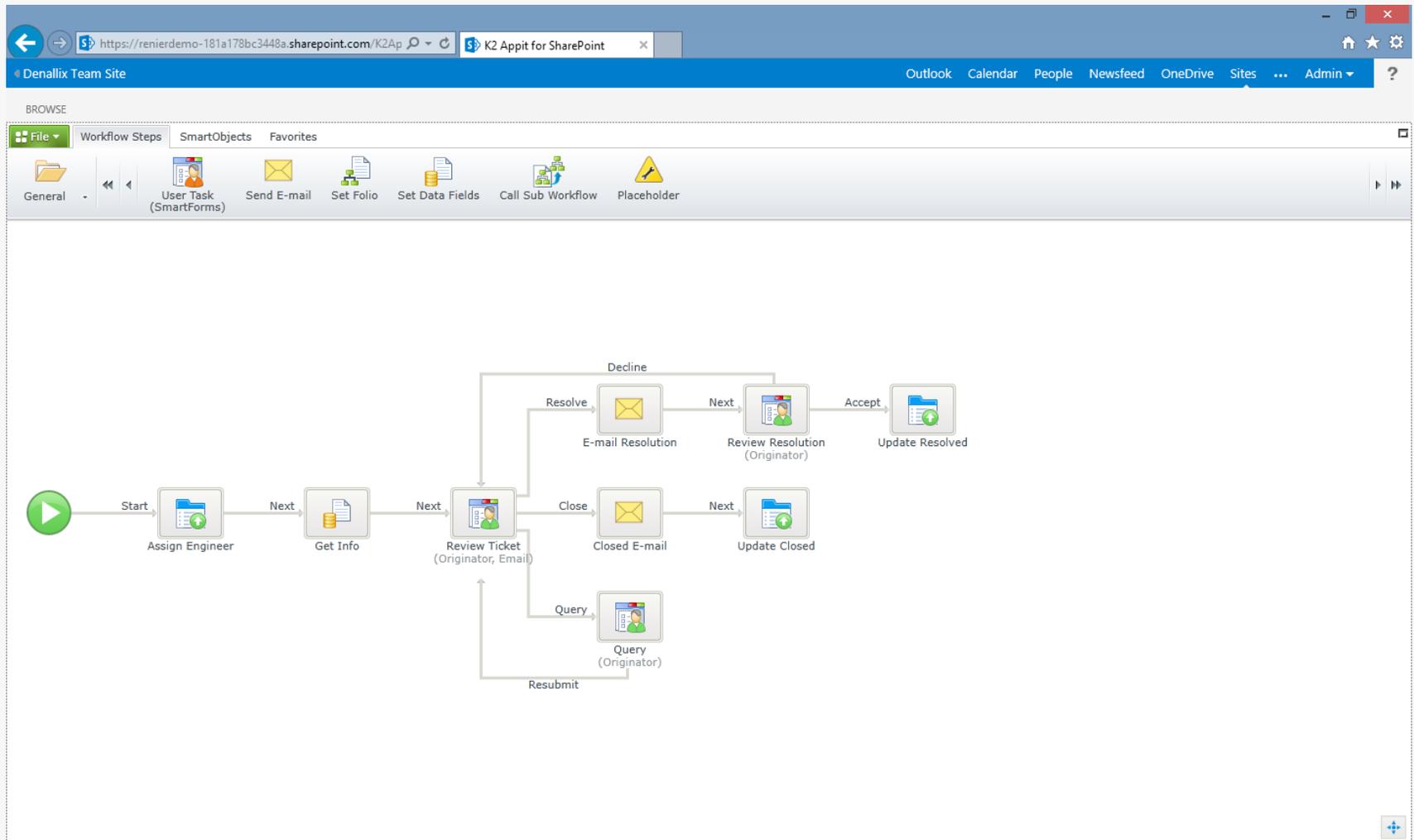




	K2 Appit for SharePoint	SharePoint 2013
How are simple forms for SharePoint lists and libraries created?	K2 Appit for SharePoint automatically generates forms for each list or library. These forms are customizable and can be reused across multiple applications.	SharePoint 2013 automatically generates forms for each list or library. These forms are customizable but cannot be reused.
How do you add more complex logic to a form?	The browser-based K2 Designer can be used to modify auto-generated forms to include additional LOB data or other advanced form capabilities and logic, without writing code.	Modifications can be made using InfoPath or SharePoint Designer as long as the form is not being used in workflow. If it is, the only option is to write custom ASP.NET code in Visual Studio.
Is it possible to manage multiple versions of a form?	Yes, Appit's versioning capabilities allow you to manage multiple versions of a form.	No, SharePoint supports only one version of a form at a time.
Can forms be reused across multiple applications, sites, lists, etc.?	Yes, forms and form rules are reusable across any application.	No, forms are tied to a specific list or library and cannot be reused by multiple lists.

WORKFLOW DESIGN

K2 Appit for SharePoint comes with extensive workflow capabilities that allow you to rapidly assemble workflow applications in a browser-based designer, without code. From basic task routing to complex solutions with policies, rules, escalations and exception handling, Appit's workflow engine is designed for scale. Appit enables users to rapidly assemble workflows with reusable components, enabling the next application to be delivered even faster than the first.





K2 Appit for SharePoint

SharePoint 2013

How are workflows designed?

Appit provides a browser-based, visual design environment to design and configure workflows without code.

SharePoint Designer 2013 is the default workflow designer and provides a rules-based designer. A graphical design environment is available using Visio, but only allows users to layout the workflow steps, not configure them. Developers can develop workflows using Visual Studio.

What kind of task routing is available?

Appit allows for a wide variety of scenarios including the ability to use application data to determine what path a task should take. Some examples of supported routing scenarios include:

- Round robin
- Send to manager
- Group approval/rejection
- Design-time and run-time ad hoc selection
- Loops/rework
- "Go-to" (any step)

SharePoint 2013 supports a subset of scenarios, including:

- Approve/decline
- Looping (X number of times)
- Looping (until X occurs)
- "Go-to" (by stage)

Additional options can be added, but require custom code and a good knowledge of SharePoint.

What types of business rules and logic are available?

Appit includes an extensive library of mathematical, logical and text-based calculations.

SharePoint 2013 includes a basic library of mathematical and text-based functions.

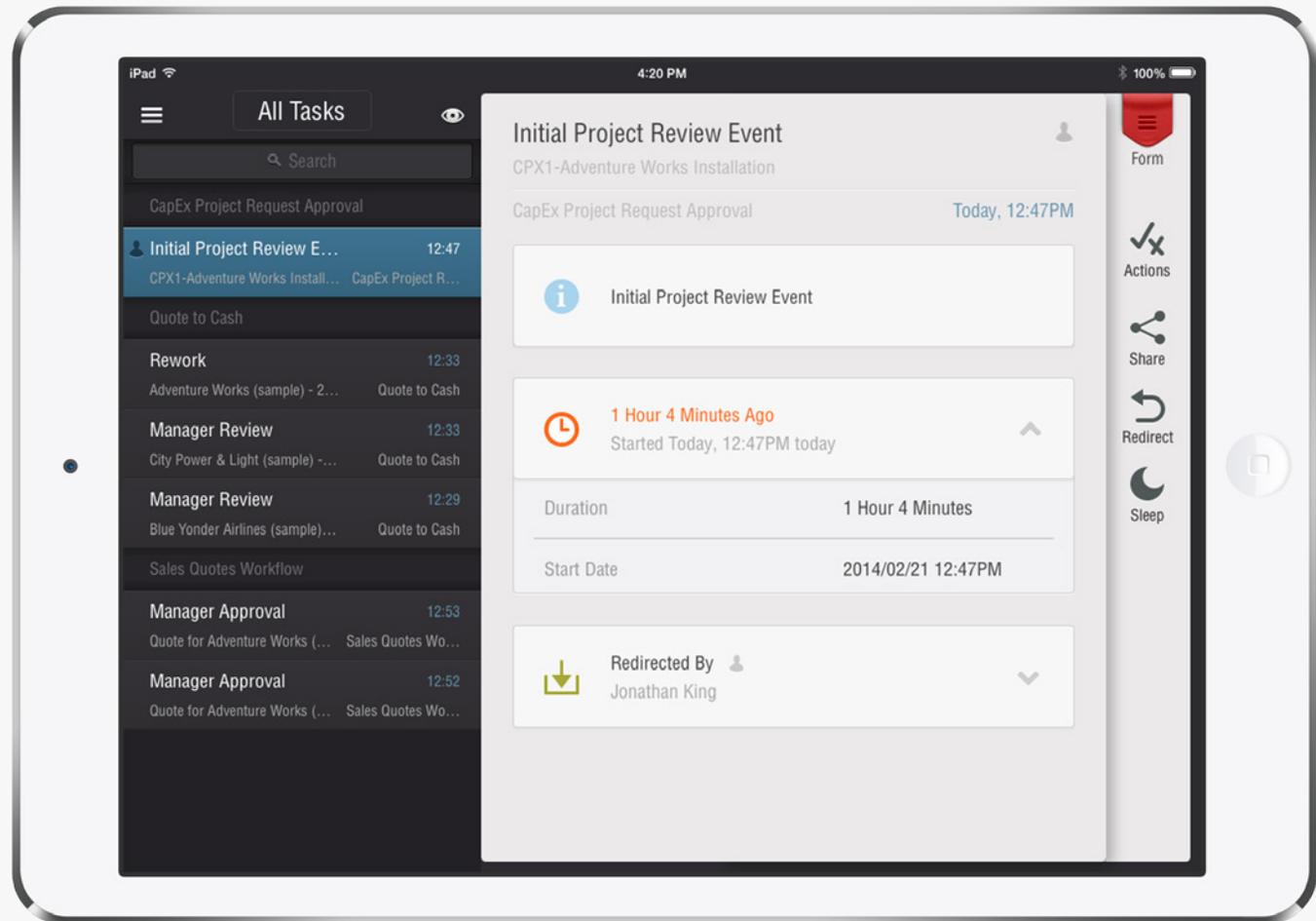
Can workflows and business logic be reused?

Yes, virtually all Appit-based assets are reusable across multiple applications.

No, workflows are tied to a specific list or library so reuse is not possible.

TASK MANAGEMENT

Ultimately, your K2 Appit for SharePoint applications are designed to empower users in your organization to take action. Interacting with, and managing tasks associated with a business application is central to a workflow-driven process. If users do not have an intuitive, easy-to-use mechanism for accessing tasks, they will be less likely to use the application on a regular basis. Below is a comparison of how tasks are handled in K2 Appit for SharePoint and SharePoint 2013.





	K2 Appit for SharePoint	SharePoint 2013
Can task forms display line-of-business data?	Yes, task forms can be assembled with any number of data sources, no code required.	Yes, task forms can be customized using custom ASP.NET code.
Can tasks be delegated or redirected to another user?	Yes, end users can redirect or delegate tasks directly from their task list.	Yes, the delegation action needs to be included in the workflow when it is designed.
What happens when a user is out of office?	Appit users can delegate tasks to another user based on their out of office schedule.	No capabilities are provided out-of-the-box, but custom code can be included to handle this scenario.
How are tasks accessed?	Out-of-the-box, Appit provides the following: <ul style="list-style-type: none">• A global tasklist that can be surfaced anywhere in SharePoint• Mobile apps that give access to tasks from any device• Email access	Tasks can be accessed via a shared, site-specific task list or via a link in email.

MANAGEMENT AND ADMINISTRATION

K2 Appit for SharePoint gives you full control over your applications, including the power to adapt and manage your environment. Process- and task-level security options give you granular control over the security configuration of your environment and applications. Version management lets you easily move between different process versions, allowing you to minimize downtime and maximize productivity. Appit is designed to run at scale, combining power and control for even the most high-volume and high-demand business processes.

The screenshot displays the K2 Management console interface. The top navigation bar includes 'K2 Management' and 'Workflow Server'. The main content area is divided into two sections: 'K2 Management > Workflow Server > Workflows > Versions' and 'Process Events'.

K2 Management > Workflow Server > Workflows > Versions

Version	Modified By	Modified Date	Active	Running	Stopped	Error
13.0 (Default)	K2SQL-USZX4UB	Monday, October 20, 2014 6:29:23 PM	4	0	0	0
1.0	AAD:I-5C4DAC8C3\K2Service	Tuesday, June 3, 2014 8:45:18 AM	0	0	0	0
2.0	AAD:I-5C4DAC8C3\K2Service	Tuesday, June 3, 2014 10:22:14 AM	0	0	0	0
3.0	AAD:I-5C4DAC8C3\K2Service	Tuesday, June 3, 2014 2:14:11 PM	0	0	0	0
4.0	AAD:I-5C4DAC8C3\K2Service	Tuesday, June 3, 2014 2:36:04 PM	0	0	0	0
5.0	AAD:I-5C4DAC8C3\K2Service	Tuesday, June 3, 2014 3:44:38 PM	0	0	0	0
6.0	AAD:I-5C4DAC8C3\K2Service	Tuesday, June 3, 2014 4:50:34 PM	0	0	0	0
7.0	AAD:I-5C4DAC8C3\K2Service	Friday, July 25, 2014 1:32:12 PM	0	0	0	0
8.0	AAD:I-5C4DAC8C3\K2Service	Tuesday, August 19, 2014 12:31:13 PM	0	0	0	0
9.0	AAD:I-5C4DAC8C3\K2Service	Tuesday, August 19, 2014 1:17:06 PM	0	0	0	0

Process Events

Activity Name	Server Event Name	Run As
Assign Engineer	Assign Engineer Event	
Get Info	Get Info Event	
E-mail Resolution	E-mail Resolution Event	
Update Resolved	Update Resolved Event	
Closed E-mail	Closed E-mail Event	
Update Closed	Update Closed Event	



K2 Appit for SharePoint

SharePoint 2013

How is versioning handled?

Key Appit components, including forms and workflows are versioned automatically and allow for rollback to previous versions, if necessary.

Only the most current version of both forms and workflows are used.

How is application management handled?

Appit management tools are available in a browser-based tool, accessed via the SharePoint site. Access to error handling, security and instance management is available via this interface.

All management functions are done via cmdlets or code written in Visual Studio. No browser-based management interface is available, although server monitoring can be done via the event tracking interface.

How is error handling managed?

Errors are surfaced via the management interface.

Processes in error are automatically suspended or stopped. Troubleshooting requires looking through error log files.

How is security handled?

Security is accessed via the browser-based management interface and can be set at an application and individual task level using Active Directory users, groups or K2 specific roles.

Access is set via standard SharePoint list security.

Are there any load or performance limitations?

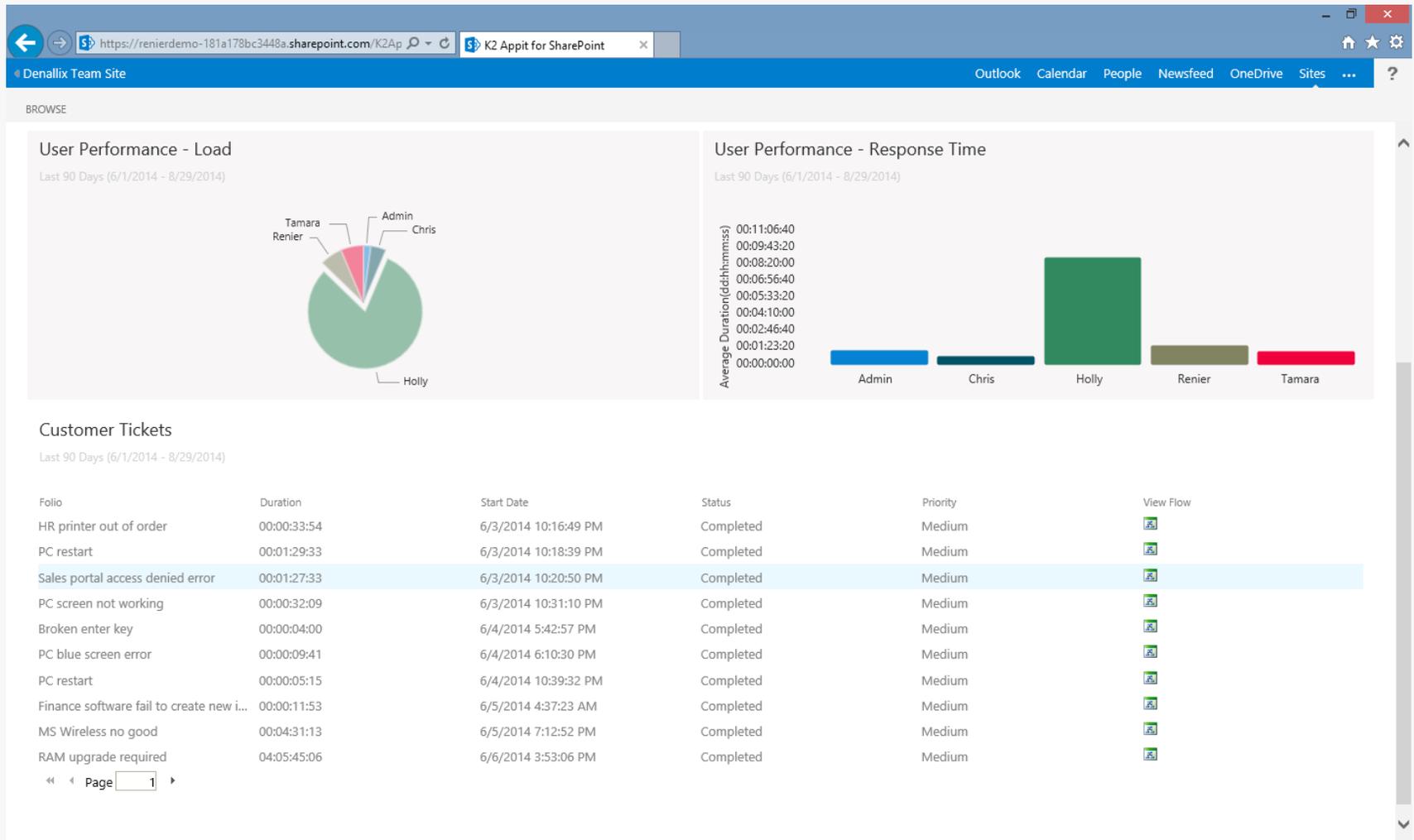
No, K2 Appit for SharePoint is an enterprise-level server and has been optimized to run many applications and application instances at one time.

Yes, the limitations are:

- Can only execute 15 concurrent workflows against a single content database.
- The max workflow definition is 5,120KB
- Workflow instance activations, per second, per Web server is 6

REPORTING AND ANALYTICS

Once an application is running in production, it's important that process administrators and process participants have the ability to quickly determine where bottlenecks are in order to understand how to best optimize the process on an ongoing basis. K2 Appit for SharePoint makes information easy to access and understand, giving users full visibility into Appit applications with features like View Flow, which gives a real-time visual representation of running processes, and SmartForms-based reports, which provide a SharePoint-based dashboard that allows users to track the status of all running processes in the environment.





	K2 Appit for SharePoint	SharePoint 2013
How is instance reporting handled?	Out-of-the-box reports provide detailed information on each instance and can be customized, using the K2 Designer to show additional info.	Basic information is available for each instance, but additional information is only available via API, requiring a developer to code additional reports.
How is audit tracking handled?	By default, Appit logs information about task participants, actions taken, data changed or added and how long each step took.	Basic information, like start and stop times is available. Logging of additional audit information can be added to each application.
Can I create custom reports?	Yes, via the browser-based, visual K2 Designer.	Yes, via custom code using API and REST services.
How long is instance and audit tracking information kept?	Indefinitely.	60 days by default. This can be changed via the logs, but requires a manual process to archive things on a regular basis.



Appit™



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