

# Vendor Landscape: Application Development Tools

Don't ask your developers about this, they are liable to tell you they can build it better.

# Introduction

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**Spending a little on development components means a lot less time spent developing solutions, and that equates to remarkable cost savings.**

## This Research Is Designed For:

- ✓ Enterprises that **develop software** and want to:
  - Create more high-quality features in less time.
  - Keep pace with the ever-changing world of software development.
  - Add missing functionality or enhanced functionality without writing lines of code.
- ✓ Enterprises facing business challenges that must respond to the needs of end users (internal or external):
  - With reliable and agile line-of-business solutions.
  - By keeping up-to-speed with current technologies, trends, and design patterns.

## This Research Will Help You:

- ✓ Understand what's new in the development tools/component market.
- ✓ Evaluate development tools/component vendors and products for your enterprise needs.
- ✓ Determine which products are most appropriate for particular use cases and scenarios.
- ✓ Aid in the selection process of a development tools/component package.

# Executive Summary

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- Business is tight, timelines are tight, and getting more done in less time while remaining in touch with the leading trends in software is critical to any business. Using development components and tools helps your developers stay current with technology trends, providing responsive solutions for your clients.
- ComponentOne, the clear leader and champion of the development tool space, has been providing tools, components, and applications to assist developers for over 23 years. It provides the most well-rounded offering of tools in all three of the major categories: Desktop, Mobile, and Web all in one convenient suite.
- The cost point for each of the vendors is relatively equal; each offers a full “ultimate” suite containing all their products. The products excel at specific functions and features. Janus Systems received the lowest scoring because its focus is on the desktop space, while the other vendors offer their products across 2 or 3 of the evaluated platforms.
- Development managers and leaders must base their decision to use the tools and components detailed in this research not on what their developers tell them, but rather on real empirical evidence. In each case, the vendors described herein offer trial periods for their suites. Use these trials to determine first hand the real cost savings you will see. Developers are often too quick to “build it themselves,” not realizing the impact to the business.

# Market Overview

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## *How it got here*

- Vendor supplied development tools and components have been around since the 1980s when many development languages and environments began to evolve into more robust offerings.
- Tools and components were designed to simplify and expedite development of common features and functions.
- Target audience has always been software developers, software architects, and IT professionals responsible for the deployment of business solutions.
- Development tools and components have continually been a means of allowing development groups to stay abreast of the latest technological and software trends and providing an easy to use (often single line of code) integration.

## *Where it's going*

- Development tools vendors continue to mature their products keeping up with the ever-changing technology landscape and the needs of business development groups.
- New functionality, components, and tools are being created to integrate and interface with business pervasive software such as SharePoint, with many of the vendors (ComponentOne in particular) offering a full suite of tools designed specifically for SharePoint development efforts.
- More robust UI tools target agnostic environments so that developers can code once and deploy across desktops, Web, and mobile application spaces.

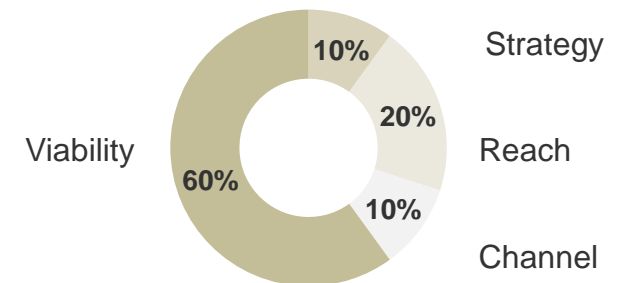
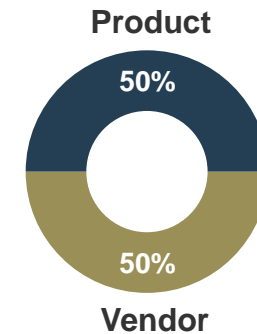
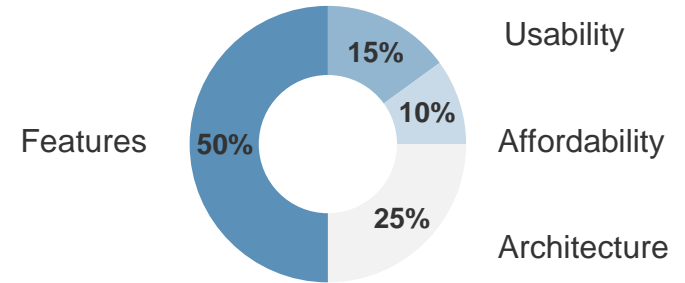
# Application Development Components & Tools Evaluation Criteria & Weighting Factors

## Product Evaluation

Features	The solution provides basic and advanced feature/functionality.
Affordability	The five-year TCO of the solution is economical.
Usability	The solution's dashboard and reporting tools are intuitive and easy to use.
Architecture	The delivery method of the solution aligns with what is expected within the space.

## Vendor Evaluation

Viability	Vendor is profitable, knowledgeable, and will be around for the long-term.
Strategy	Vendor is committed to the space and has a future product and portfolio roadmap.
Reach	Vendor offers global coverage and is able to sell and provide post-sales support.
Channel	Vendor channel strategy is appropriate and the channels themselves are strong.



# The Info-Tech Application Development Components & Tools Vendor Landscape

**Champions** receive high scores for most evaluation criteria and offer excellent value. They have a strong market presence and are usually the trend setters for the industry.

**Market Pillars** are established players with very strong vendor credentials, but with more average product scores.

**Innovators** have demonstrated innovative product strengths that act as their competitive advantage in appealing to niche segments of the market.

**Emerging Players** are newer vendors who are starting to gain a foothold in the marketplace. They balance product and vendor attributes, but score lower relative to market Champions.


For a complete description of Info-Tech's Vendor Landscape methodology, see the Appendix.



# Every vendor has its strengths & weaknesses; pick the one that works best for your organization

	Product					Vendor				
	Overall	Features	Usability	Price	Platform	Overall	Viability	Strategy	Reach	Channel
<b>ComponentOne</b>	●	◐	●	◐	●	●	●	●	●	◐
<b>DevExpress</b>	◐	◐	●	◐	◐	◐	◐	●	◐	◐
<b>Infragistics</b>	◐	●	◐	○	◐	●	●	●	◐	◐
<b>Intersoft</b>	◐	◐	●	◐	◐	○	◐	●	◐	◐
<b>Janus</b>	○	○	◐	●	○	◐	●	●	◐	◐
<b>Telerik</b>	●	◐	●	◐	◐	◐	◐	●	●	◐

For an explanation of how the Info-Tech Harvey Balls are calculated, please see the slide entitled “Value Evaluation Methodology” in the appendix.



Major influencers on overall result are Features and Architecture from the Products Criteria, and Viability and Reach from the Vendor Criteria.

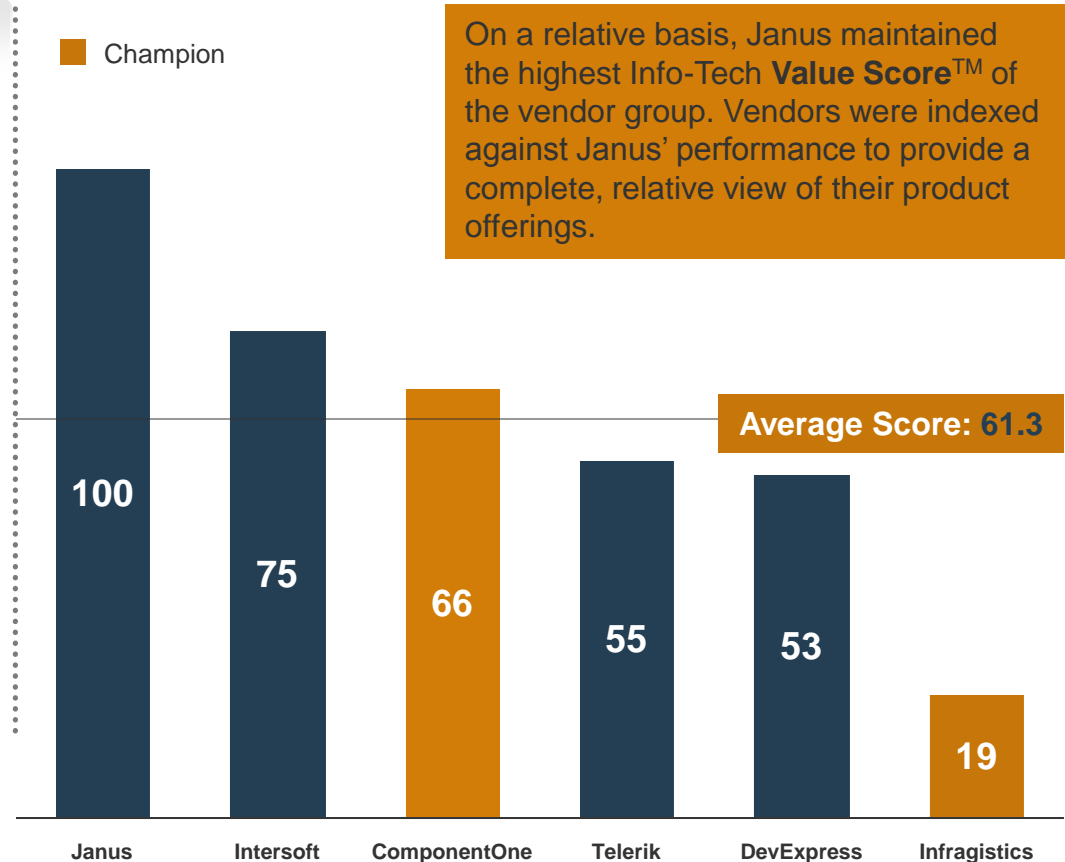
# The Info-Tech Application Development Components & Tools Value Index

## What is a Value Score?

The Value Score indexes each vendor's product offering and business strength **relative to their price point**. It **does not** indicate vendor ranking.

Vendors that score high offer more **bang for the buck** (e.g. features, usability, stability, etc.) than the average vendor, while the inverse is true for those that score lower.

Price-conscious enterprises may wish to give the Value Score more consideration than those who are more focused on specific vendor/product attributes.



### Sources:

1. To calculate the Value Score for each vendor, the affordability raw score was backed out, the product scoring reweighted, and the affordability score multiplied by the product of the Vendor and Product scores.

# Table Stakes represent the minimum standard; without these a product doesn't even get reviewed

## The Table Stakes

Feature	Description
Desktop Development Components	ActiveX, WinForms, and WPF form the basis for desktop platforms and include charts, grids, lists, and input controls.
Web Development Components	AJAX, JQuery, JavaScript, and ASP.net are the basics for Web development. Features such as Silverlight integration, calendars, combobox, editors, gauges, grids, and more.
Mobile Development Components	iPhone, WinPhone, Android, BlackBerry all represent environments in the mobile arena. Buttons, calendars, navigation, pickers, and sliders are all features required for mobile interface development.
Time Savings	Reduction in development time by as much as 40-60%.

## What Does This Mean?

The products assessed in this Vendor Landscape™ meet, at the very least, the requirements outlined as Table Stakes.

Many of the vendors go above and beyond the outlined Table Stakes, and some do so in multiple categories. This section aims to highlight the product capabilities **in excess** of the criteria listed here.

### Info-Tech Insight

When comparing vendors and their development component suites, cost is somewhat equal across all vendors. Use the free trial period to evaluate how your organization's exact needs match with the vendor's offering. Take the time to try the solution, use it and gauge suitability based on how quickly developers accept it.

# Advanced Features are the market differentiators that make or break a product

## Scoring Methodology

Info-Tech scored each vendor's features offering as a summation of their individual scores across the listed advanced features. Vendors were given 1 point for each feature the product inherently provided. Some categories were scored on a more granular scale with vendors receiving half points (see **\*\*Partial functionality criteria**).

*\*\*Partial functionality was given across several categories if components were capable but the functionality was not a primary function. For example, all grids and charts inherently provide reporting capabilities depending on their usage in the designed application.*

## Advanced Features

Feature	What We Looked for
<b>Enhanced Web Components</b>	Support for Asp.Net, JQuery, HTML5, Data Visualization capabilities including OLAP, ORM, and reporting
<b>Enhanced Mobile Components</b>	Support for multiple mobile OS, specifically iPhone, WinPhone, Android, BlackBerry. Special attention was given to vendors providing named (not simply generic capability) for multiple mobile platforms.
<b>Silverlight Integration</b>	Grids, maps, calendars, charts, menus, navigation aids, sliders, and pickers are just a few of the features.
<b>Data Visualization</b>	OLAP, ORM, pivot tables and charts were among the data visualization features evaluated.
<b>Testing Components</b>	Testing as a named component. Recorders, scheduling, script builders. For this we looked specifically for something more than developer unit testing capabilities.
<b>Reporting Components</b>	Lightweight controls and components easily embeddable and reusable. Integration with common apps, Word, Excel, etc.

# Each vendor offers a different feature set; concentrate on organizational need

	Web	iPhone	WinPhone	Android	Silverlight	Data Vis.	Testing	Reporting
<b>ComponentOne</b>	●	●	●	●	●	●	●	●
<b>DevExpress</b>	●	●	●	●	●	●	●	●
<b>Infragistics</b>	●	●	●	●	●	●	●	●
<b>Intersoft</b>	●	●	●	●	●	●	●	●
<b>Janus</b>	●	●	●	●	●	●	●	●
<b>Telerik</b>	●	●	●	●	●	●	●	●

Janus suffers on the Advanced Features comparison because it is focused almost exclusively on desktop development. ComponentOne offers a full suite of mobile development tools, but weak testing and reporting; Infragistics and Telerik are the opposite.

# ComponentOne offers a comprehensive array of components backed up with over 23 years of experience

## **Champion**

Product: **Studio Ultimate**  
Employees: US & Offshore (100+)  
Headquarters: Pittsburgh, PA  
Website: [www.componentone.com](http://www.componentone.com)  
Founded: 1987  
Presence: Privately held - Worldwide



**ComponentOne**



Between \$1,000 and \$5,000

### Overview

- ComponentOne has been providing development tools and components targeting Microsoft environments for over 23 years. Its enterprise suites include hundreds of custom controls.

### Strengths

- Provides a wide array of products, components, controls, and tools for the Microsoft Visual Studio development environment.
- Encompasses WinForms, ASP.Net, ActiveX, WPF, Mobility for WinPhone, iPhone, and Android, as well as documentation, help tools, OLAP data visualization tools, and more.
- Offers SharePoint specific components.

### Challenges

- Studio Ultimate does not include any specific testing components or suite of features; however, it is built to support automated UI testing.

### Info-Tech Recommends:

ComponentOne offers the most complete suite of tools and components covering all three major platforms (Desktop, Web, and Mobile), specifically targeting Microsoft development environments.

# ComponentOne: The Studio Ultimate bundle provides all the necessary controls in one package

The “Ultimate” bundle provides access to hundreds of .NET controls, OLAP data analysis components, and code optimization tools.

## What You Get in the Bundle...



- Studio Enterprise
  - Includes Studio for ASP.Net, AJAX, Silverlight, iPhone, Compact Framework, ActiveX, Windows Phone 7, WinForms, and WPF.
    - Controls include Grids, Charting, Reporting, Scheduling, Navigation, Data Input, and SpellChecking.
- OLAP for WinForms & Silverlight
  - Data Analysis with OLAP, Pivot Tables, and charts
- XapOptimizer
  - Secure code obfuscation and optimizer
  - Supports merged dictionaries, URI namespaces
- LiveLinq
- Intellispell

• **Standard support** is included with licensed products.

• **Platinum support** can be purchased for \$300 per package.

- *Standard Support* includes:
  - Pre-Sales Support
  - Access to KnowledgeBase
  - Forums
  - Product Updates
  - Online Support
  - E-mail Project Analysis
- *Platinum Support* adds to the above with:
  - 24 hour (5 day) FastTrack Response
  - Phone Support (with a live person)
  - Access to pre-release software

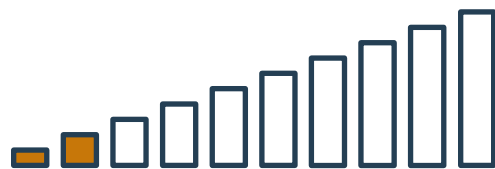
**Info-Tech  
Insight**

Purchasing the bundle can save you more than \$4,000 over the individual packaged prices. In addition to the Ultimate bundle, ComponentOne provides packages for documentation, Report Designer, and an extensive suite of development tools tailored for SharePoint development projects.

# Infragistics is dedicated to empowering development teams by accelerating development cycles & improving usability

## Champion

Product: NetAdvantage Ultimate  
Employees: 300+ (Worldwide)  
Headquarters: Cranbury, NJ  
Website: [www.infragistics.com](http://www.infragistics.com)  
Founded: 2000  
Presence: Privately held - Worldwide  
Formed from a merger between Sheridan Software and ProtoView



Between \$1,000 and \$5,000

### Overview

- Sheridan Software & ProtoView merged to form Infragistics in 2000. Sheridan Software was a leader in visual development components, while ProtoView was a leader in ActiveX and Java components.

### Strengths

- Provides a robust offering of controls and components covering all major areas of development.
- Strong components, controls, and tools for reporting.
- Strong components, controls, and tools for Windows Phone 7.
- Includes designers (AppStylist) to allow designers to focus more on the design, and less on the platform differences.

### Challenges

- Support for other mobility is currently limited (although inherent through technology); iPhone & Android specific functionality is on the way and will be released to Ultimate subscribers.
- The price point for the Ultimate package is slightly higher than the competitors initially, but ROI increases with time due to lower renewal costs.

### Info-Tech Recommends:

The inclusion of automated UI testing, report writing, support for HTML5, and platform independent visual designers make Infragistics a top choice for any development group.

# Infragistics: The NetAdvantage Ultimate bundle packages all the UI controls you'll need for Web, Desktop, and Mobile

The “Ultimate” bundle provides the means for developers to create the same look and feel across all applications, regardless of platform.



- All 9 UI Control Sets
  - Includes: ASP.Net, WinForms, WPF, Silverlight, JQuery, Reporting, Data Visualization, and Mobile
    - Controls Include: charts, grids, datepickers, datatree, dropdowns, calendars, etc.
- Data Visualization for Silverlight and WPF
  - Create OLAP pivot grids
- Automatic update of new controls during subscription, which include: ReportWriter, jQuery collection, and Mobile Controls for iPhone, Android, and Windows Phone 7

- Support Options Include:
  - Get Help Web
  - Access to KnowledgeBase
  - Forums & Newsgroups
  - Product Updates
  - Online Chat & Support
  - US & European Support departments
  - Self-Help options that include:
    - KnowledgeBase
    - Online Documentation
    - Control Help Centers
    - Source Code
    - FAQ Database

# Telerik provides a more complete set of tools including project, product, and lifecycle management

## **Innovator**

Product: Ultimate Collection  
Employees: 400+  
Headquarters: Sofia, Bulgaria  
Website: [www.telerik.com](http://www.telerik.com)  
Founded: 2002  
Presence: Privately held – Worldwide offices: USA, UK, Canada, Germany, Australia, Bulgaria



*deliver more than expected*



Between \$1,000 and \$5,000

### Overview

- Telerik's mission is to make development easier. It offers a full range of products, covering the entire SDLC from agile project management, collaboration, development, and testing.

### Strengths

- Tool/component coverage is exhaustive. All facets of SDLC covered including everything from designing to deployment with all phases in between.
- Presentation controls for ASP.Net, AJAX, Silverlight, Windows Phone 7 and more. Productivity tools for code analysis and prototyping, embedded reporting tools and open data access.

### Challenges

- Telerik's biggest challenge is the lack of a more robust mobile solution. iPhone, Android, and general mobility are limited to what can be done with the current technologies (i.e. ASP.Net).
- Telerik is a relative newcomer to the landscape, and although it has been creating components for ten years, many of the other vendors are double that age.

### Info-Tech Recommends:

A stunning suite of components across all platforms, including testing, prototyping, documenting, and ORM visualizations. Don't let the vendor's young age fool you, the tools are among the best available.

# Telerik: The Ultimate Collection completes development needs by including code analysis & testing components

The “Ultimate” collection reflects one of the most comprehensive packages including development, testing, reporting, and prototyping tools.

## What You Get in the Bundle...

- RadControls for ASP.Net, AJAX
  - Includes: 70+ controls, live demos, documentation, skins, Visual Studio samples, DotNetNuke, and SharePoint integration
- RadControls for Silverlight, Winforms, WPF & Windows Phone, ASP.NET MVC
- Telerik Reporting
  - Includes: 4 report viewers, documentation, demos, and skins
- Telerik Data Access ORM
- Telerik JustCode, JustMock, TestStudio Express
  - Code analysis, unit testing & prototyping



**Standard support** is included with licensed products  
**Priority support** can be purchased at additional cost

- *Standard Support* includes:
  - 48-hour guaranteed response time
  - Online ticketing system
  - Full year support term
  - Product service packs
  - Priority involvement in Beta programs
- *Priority Support* adds to the above with:
  - 24-hour guaranteed response
  - Product updates & upgrades
  - Issue escalation to development teams

# DevExpress is aptly classified as an innovator and is dedicated to exceeding every developer's expectations

## **Innovator**

Product: DXperience – Universal  
Employees: 250+  
Headquarters: Glendale, CA  
Website: [www.devexpress.com](http://www.devexpress.com)  
Founded: 1998  
Presence: Privately held -  
Current revenue 25-50M



Between \$1,000 and \$5,000

### Overview

- DevExpress continues to focus on providing the best components without backing developers into a proprietary corner. The vendor prides itself on the caliber of its support group and commitment to innovation of new tools.

### Strengths

- Recently, DevExpress won the award for “best new software development tool” at 2011 TechEd in Atlanta, GA.
- A solid offering of reporting tools and integration with report engines help to round out its tool/component suites.
- Ease of integration and ease of use for developers lead to rapid adoption by developers and business leaders.

### Challenges

- Lacking in any named mobile components and/or tools, DevExpress will need to offer specific mobility tools to remain competitive with the top vendors (it recently announced free support for Windows Phone 7 dev).
- Testing components are not offered in the universal package, but testing components are available.

### Info-Tech Recommends:

As one developer put it “*DevExpress has the ‘sexiest’ looking controls in any browser even with the standard theme.*” If the controls can impress a developer, just think what they will do for users.

# Janus Systems have some of the best grid controls for desktop development but lack any robust tools for web or mobile

## Market Pillar

Product: Windows Forms Controls  
Employees: 6  
Headquarters: Panama, Republic of Panama  
Website: [www.janusys.com](http://www.janusys.com)  
Founded: 2002  
Presence: Privately held - Worldwide



Between \$1,000 and \$5,000

## Overview

- Janus Systems has been in the development controls and components space since 2002. It was one of the first vendors to offer a grid component, which has been widely adopted by many development groups.

## Strengths

- Janus Systems' GridEX is the flagship component. It allows developers to easily build Outlook style interfaces, complete with tabs, button bars, and tool tips.
- Janus Systems controls are designed specifically for the desktop environment and allow developers to build and deploy very familiar interfaces allowing for faster adoption by users.

## Challenges

- Due to its desktop space focus, Janus falls behind the competition in the development components and tools space.
- Development trends are moving more and more toward the Web, and mobile solutions with desktop applications are beginning to take a secondary position. Janus will need to improve or continue to lose market to competitors.

## Info-Tech Recommends:

Unlike the other vendors, Janus focuses primarily on the desktop space. Consider Janus only if organizational need is limited to desktop applications.

# Intersoft Solutions focuses on helping developers build robust RIA Web applications, but it lacks in the area of mobility

## Emerging Player

Product: WebUI Studio Premier  
Headquarters: Jakarta, Indonesia  
Website: [www.intersoftpt.com](http://www.intersoftpt.com)  
Founded: 2002  
Presence: Privately held – Worldwide offices: Indonesia, US, UK



## Overview

- Intersoft's focus is clearly with the Web technologies. The company has been focused on building robust RIA Web 2.0 solutions, components, and tools since its inception.

## Strengths

- Over 30 components designed specifically for enhancing the Web experience.
- ASP.Net, Silverlight are the recipients of most of the company's efforts.
- Data Visualization tools, scheduling, and navigation tools have recently won awards.

## Challenges

- As its focus is on Web technologies, it lacks in the area of mobility with virtually no support for iPhone, WinPhone, or Android mobile platforms.
- As with Telerik, Intersoft is a newcomer to the development tools space.

## Info-Tech Recommends:

Intersoft offers a great suite of tools for Web RIA development supported by hundreds of global companies using its products. But if your team develops for mobile, Intersoft isn't the best choice.

# dtSearch has an extremely powerful set of text retrieval tools that should be in everyone's toolbox

## ▶ **\*Not Compared**

Product: Multiple Products – Search  
Headquarters: Bethesda, MD  
Website: [www.dtsearch.com](http://www.dtsearch.com)  
Founded: 1991  
Presence: Privately held - Worldwide distribution



Between \$1,000 and \$5,000

## Overview

- dtSearch is a leading supplier of text retrieval software. dtSearch develops search engine tools (APIs) that have the ability to instantly search terabytes of data.
- Product line contains enterprise and developer products that include publishing and spidering capabilities for remote sites and distributed networks.
- Typical implementations of dtSearch tools include general data retrieval, Internet searching, intranet searching, access to technical documentation, archived e-mail, and more.

## Strengths

- Have been building search technology tools since 1988.
- Tools capable of searching multiple sites instantly.
- Text searching from anywhere: if a word is on page 35 of a 100-page document, dtSearch will find that document.
- Supplies a necessary tool that is complex and difficult to build, and at a price point that means no business should be without.

**\*Note:** dtSearch was not included in this vendor comparison. The vendor was included here simply because its product is **just so good, you need to know!**

## Info-Tech Recommends:

If your site requires searching of any kind, Info-Tech strongly recommends including the tool set from dtSearch. Search terabytes of data with virtually instant results from almost anywhere.

# dtSearch provides the ability to instantly search terabytes of text from virtually any source

**dtSearch tools provide lightning-fast performance when retrieving text that is unmatched by other developer search products – all with a single index.**

- MS Office support (including 2010) (Word, Excel, PowerPoint, Access)
- Support for OpenOffice, ZIP, HTML, XML, PDF
- Supports Exchange, Thunderbird
- Supports e-mail file types including nested e-mails
- Static and dynamic Web data support built into the spider controls (including ASP.Net, SharePoint, CMS, PHP)
- API available for SQL type data, including BLOB
- APIs available for C++, Java, .NET
- 64bit and 32bit Win/Linux APIs
- .NET Spider API
- Engines available for Linux or Windows

**dtSearch<sup>®</sup>**



## **\*\* Special Recognition \*\***

- While Info-Tech did not include dtSearch in the vendor comparison, we did want to include them as a special recognition vendor.
- *It would be unfair to compare dtSearch to vendors such as ComponentOne, Telerik, or Infragistics since they simply do not compete in the same space.*
- With dtSearch, developers can embed instant searchability and file format support directly into organizational business applications.
- Keyword storage and metadata usage become unnecessary. With dtSearch tools, developers can make it possible to find any text, in any document, anywhere ... all in an instant.

**If this sounds too good to be true,  
check it out for yourself!**

**Info-Tech  
Insight**

Many businesses, likely all, have a need for search technology. Whether e-mails, documents, presentations, or other, once they are complete, they are stored, and once stored, eventually you need to find them again. Using dtSearch tools your developers can enable instantaneous searching, looking for text that may appear on the last page of a document.

# Business users are notoriously impatient and want their apps to reflect the latest trends – while they are still a trend

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**When it comes to desktop development, WinForms, WPF, ActiveX – choosing a component suite that can speed up development time is critical.**

**1 Desktop Development**

*Exemplary Performers*

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**2 Web Development**

*Viable Performers*

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**3 Mobile Development**

*Adequate Performers*

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# Evolving Web standards and changing technologies can make it difficult for the dev team to stay current... but they must

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**With so many standards to follow, having components that can deal with all the differences is critical to expedient the success of your dev team.**

**1** Desktop Development

## *Exemplary Performers*

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**2** Web Development

## *Viable Performers*

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**3** Mobile Development

## *Adequate Performers*

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# Trends are moving towards mobile interfaces. If your organization isn't providing one now, it may be lagging behind

**Developing for mobile environments is a challenge for many developers, but with the right tool set, the job can be much easier.**

**1** Desktop Development

*Exemplary Performers*



**2** Web Development

*Viable Performers*



**3** Mobile Development

*Adequate Performers*



# Appendix

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A discussion of Info-Tech's various vendor ranking methodologies.

# Vendor Evaluation Methodology

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Info-Tech Research Group's Vendor Landscape market evaluations are a part of a larger program of vendor evaluations which includes Solution Sets that provide both Vendor Landscapes and broader Selection Advice.

From the domain experience of our analysts, as well as through consultation with our clients, a vendor/product shortlist is established. Product briefings are requested from each of these vendors, asking for information on the company, products, technology, customers, partners, sales models, and pricing.

Our analysts then score each vendor and product across a variety of categories, on a scale of 0-10 points. The raw scores for each vendor are then normalized to the other vendors' scores to provide a sufficient degree of separation for a meaningful comparison. These scores are then weighted according to weighting factors that our analysts believe represent the weight that an average client should apply to each criteria. The weighted scores are then averaged for each of two high level categories: vendor score and product score. A plot of these two resulting scores is generated to place vendors in one of four categories: Champion, Innovator, Market Pillar, and Emerging Player.

For a more granular category by category comparison, analysts convert the individual scores (absolute, non-normalized) for each vendor/product in each evaluated category to a scale of zero to four whereby exceptional performance receives a score of four and poor performance receives a score of zero. These scores are represented with "Harvey Balls," ranging from an open circle for a score of zero to a filled in circle for a score of four. Harvey Ball scores are indicative of absolute performance by category but are not an exact correlation to overall performance.

Individual scorecards are then sent to the vendors for factual review, and to ensure no information is under embargo. We will make corrections where factual errors exist (e.g. pricing, features, technical specifications). We will consider suggestions concerning benefits, functional quality, value, etc.; however, these suggestions must be validated by feedback from our customers. We do not accept changes that are not corroborated by actual client experience or wording changes that are purely part of a vendor's market messaging or positioning. Any resulting changes to final scores are then made as needed, before publishing the results to Info-Tech clients.

Vendor Landscapes are refreshed every 12 to 24 months, depending upon the dynamics of each individual market.

# Value Index Ranking Methodology

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Info-Tech Research Group's Value Index is part of a larger program of vendor evaluations which includes Solution Sets that provide both Vendor Landscapes and broader Selection Advice.

The Value Index is an indexed ranking of value per dollar as determined by the raw scores given to each vendor by analysts. To perform the calculation, Affordability is removed from the Product score and the entire Product category is reweighted to represent the same proportions. The Product and Vendor scores are then summed, and multiplied by the Affordability raw score to come up with Value Score. Vendors are then indexed to the highest performing vendor by dividing their score into that of the highest scorer, resulting in an indexed ranking with a top score of 100 assigned to the leading vendor.

The Value Index calculation is then repeated on the raw score of each category against Affordability, creating a series of indexes for Features, Usability, Viability, Strategy and Support, with each being indexed against the highest score in that category. The results for each vendor are displayed in tandem with the average score in each category to provide an idea of over and under performance.

The Value Index, where applicable, is refreshed every 12 to 24 months, depending upon the dynamics of each individual market.