Crystal Reports Licensing Evolution

How licensing has evolved from Version 7 to Version 9

Overview

Over the past several Versions, Crystal Reports has evolved considerably in terms of the power, scalability and functionality it offers. With these changes, new editions and licensing options have been introduced to recognize the new, more powerful capabilities that Crystal Reports provides to the IT and Developer communities. The purpose of this document is to outline how Crystal Reports licensing has evolved from Version 7 to Version 9.

Contents

Key Crystal Reports 9 Licensing Changes

Crystal Reports 9 introduces a more flexible licensing model. Key licensing changes include:

- Concurrent (CAL) licensing has been replaced by hard coded limits on the server technology. The server no longer holds a concurrent user connection for 20 minutes (by default). Instead, it is only occupied for the amount of time required to process a user request.

- A new high-end edition, Advanced, has been introduced to address the licensing flexibility required for deployment of web applications.

  - The included server technology offers request queuing and caching[*] capabilities, which is ideal for managing variable user loads in a web environment.

  - A full set of report creation and modification[1] APIs is included at no additional cost.

- Runtime rights for server or web-based applications vary based on the product edition as follows:

  - Advanced Edition – Register application on the Crystal Decisions website and purchase a copy of Advanced for each company redistributed to. Contact OEM for volume discounts.

  - Developer Edition – Register application on the Crystal Decisions website. Please note that this edition is not recommended for deployment of web applications as it is not designed to manage user loads in a production environment.

For complete details on the Crystal Reports licensing model and how the server technology manages user requests, please visit:
http://www.crystaldecisions.com/products/crystalreports/licensingab.asp

* Caching and report creation/modification APIs provided for the Report Application Server.

Special Note

The Crystal Reports 9 Licensing Model was refined further in May 2003. This document has been updated to take into account the revised model. For complete details on these changes, please visit: http://www.crystaldecisions.com/products/crystalreports/licensingchanges.asp.

Crystal Reports Licensing Evolution At-a-Glance

The purpose of the below table is to provide a summarized view of the licensing changes from Version 7 to 9. A more detailed explanation of Crystal Reports' licensing evolution follows.

Legend

Crystal Reports = CR   Professional Edition = Pro Edition
Applications = Apps   Developer Edition = Dev Edition
Report Designer Component = RDC   Advanced Edition = Adv Edition
Crystal Enterprise = CE   Report Application Server = RAS
Web Component Server = WCS   Concurrent Access License = CAL

	Definition	Version 7	Version 8	Version 8.5	Version 9
Compiled Reports	A component that enables reports to be compiled into executables for distribution outside the CR environment	▪ Part of Report Distribution Expert ▪ Free runtime*	▪ Downloadable component from website ▪ Free runtime*	▪ Same as Version 8	▪ Not available for Version 9; new Report Application Server available
Thick-client Apps	A desktop app in which report processing occurs on the client machine, not on a server	▪ Free runtime* (report viewing and printing APIs)	▪ Free runtime* (report viewing and printing APIs) ▪ A per user runtime* fee is required for the integration of end user report creation capabilities using the RDC RCAPIs (RCAPI License); contact OEM department for volume licensing	▪ Same as Version 8 ▪ RCAPI License also applies to use of new Embeddable Designer Control (ActiveX designer)	▪ Same as Version 8.5

The term "runtime" as used in this document refers to the distribution/selling of a Crystal Reports component or an application which uses a Crystal Reports component.

	Definition	Version 7	Version 8	Version 8.5	Version 9
Server / Web Apps	A thin or zero-client app in which the report processing occurs on a server, not on a client machine	▪ Single-threaded engine with limited scalability to support approx. 5 concurrent users ▪ Free runtime* (report viewing and printing APIs)	▪ New Dev Edition ▪ Multi-threaded engine with significantly increased scalability; 5 free CAL included (paper license limitation, not technical) ▪ Additional CAL and processor licenses available for purchase ▪ Free runtime* of apps which use the 5 free CAL and RDC report viewing and printing APIs ▪ A per user runtime* fee is required for the integration of end user report creation capabilities using the RDC RCAPIs (RCAPI License); contact OEM department for volume licensing	▪ Multi-threaded engine is technically limited to 5 concurrent users with default 20 minute timeout session ▪ Additional CAL and processor licenses available for purchase ▪ No free runtime*. Contact Crystal's OEM department for runtime* licensing	▪ New Adv Edition for web deployment ▪ New embeddable CE Report Application Server (RAS); report viewing APIs included in Dev Edition and report viewing, creation and modification APIs included in Adv Edition ▪ RDC report viewing and printing APIs are also included in both editions for thick-client apps ▪ Both RDC and RAS technically restricted in number of concurrent requests processed (unlike Version 8.5 concurrent users); add-on licenses may be purchased to extend scalability ▪ Dev Edition Runtime* - Register app to access free runtime distribution rights ▪ Adv Edition Runtime* – Register app plus purchase Adv Edition for each client redistributing to. Volume licensing available from OEM department.
Web Report Delivery	An out-of-the-box solution for providing end users with web-based report access and viewing	▪ Single-threaded Web Reports Server with limited scalability (~5 concurrent users) for on-demand report viewing ▪ Free runtime*	▪ Multi-threaded Web Component Server (WCS) with significantly increased scalability ▪ Free deployment and runtime* limited to 5 concurrent users (paper license limitation, not technical) ▪ Additional CAL and processor licenses available for purchase	▪ WCS replaced by Crystal Enterprise Standard with 5 Concurrent Access Licenses for on-demand and scheduled report viewing (Note: Effective February 2003, this special offer is no longer available in 8.5) ▪ No free runtime*; contact Crystal's OEM department for runtime licensing	▪ Adv Edition includes Crystal Enterprise Standard with 5 Concurrent Access Licenses for on-demand and scheduled report viewing; contact Crystal's OEM department for runtime licensing ▪ Note: Pro, Dev and Adv Editions include a RAS web sample for developers, ePortfolio Lite, for basic on-demand report viewing
Broadcasting Apps	Custom apps that utilize Crystal technology to automate report generation and distribution	▪ N/A	▪ Annual fee required for broadcasting to >50 users	▪ Same as Version 8	▪ Terms and conditions are same as Version 8 except this right is included with purchase and registration of Advanced Edition; other editions require separate purchase of this license

Compiled Reports

Using Compiled Reports technology, a developer combines a Crystal Reports' RPT file and a report viewer into an executable program for free distribution to end users. This enables end users who do not have Crystal Reports installed on their machine to view reports.

Compiled Reports has always been provided as a royalty free component, although in Version 8, it was unbundled from the product and made available via the Crystal Decisions' website. This component is no longer supported in Version 9. A new solution, the Report Application Server, is available to address customers' requirements and is included in the Professional, Developer and Advanced Editions.

Although effective for small distribution requirements, Compiled Reports presents several limitations:

- A compiled report can only be distributed to end users with Windows operating systems. The .EXE package and the bundled viewer only support Microsoft Windows.

- In some cases, the entire report was sent to end users with the data records stored in the RPT file. If the report contains thousands of records the RPT file can be quite large.

- In some cases, the database connectivity drivers must be setup on each end user machine in order to run the report.

- Because the report viewer is always included with each report, the distributable package can be extremely large.

These limitations have been addressed by the introduction of newer Crystal technology as described in the sections that follow.

Embedding Reporting into Applications

Thick-Client Applications

The Crystal Reports Developer Edition provides programmable interfaces that enable developers to embed Crystal Reports technology into their applications. A developer embeds the Crystal Reports Engine into an application, allowing reports to be processed and viewed. This type of application is considered to be a "client", "Windows" or "desktop" application as the report processing occurs on the client machine, not on a central report-processing server.

Using any version of Crystal Reports, customers may develop and freely distribute thick-client applications to an unlimited number of users at no additional cost using the report viewing and printing APIs included with Crystal Reports Developer and Advanced (Version 9) editions.

Based on requests from our developer community, the RDC Report Creation API set (over 100 function calls) was added to the Developer Edition in Version 8. Using these programming calls – and the RAS report creation and modification APIs introduced in Version 9 Advanced Edition, developers can write both thick-client and web-based applications that allow runtime creation of report objects including text, database fields, unbound fields, charts, specials, boxes, cross-tabs, blob fields, lines, pictures, summaries and sub-report objects. This means that developers

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can build applications that include dynamic report creation at runtime - rather than requiring end users to buy and use a separate copy of Crystal Reports.

In terms of licensing (Versions 8, 8.5 and 9) for client applications, a developer needs to purchase a Report Creation API license (RCAPI License) for each user that the client application is distributed or deployed to. Volume licensing is available from Crystal Decisions' OEM department.

Version 8.5 also introduced an additional control for creating reports using the full power of Crystal Reports - the **Embeddable Crystal Reports Designer Control**. This ActiveX control enables a developer to embed a report design window or interface into their application, which facilitates the creation of reports via a drag-and-drop user interface. This component continues to be available for use in client applications in Version 9 and a Report Creation API license must be purchased for each user to which the client application is distributed or deployed.

Note - In Version 7, the integration of report creation directly into applications was not possible. If end users wanted to create new reports or extensively modify existing ones for a particular application, they had to purchase Crystal Reports as a separate and standalone product.

Because report processing occurs on the client's machine, thick-client applications do present some limitations including:

- Each client machine sometimes requires a copy of the report definition (.RPT file). This can lead to version control problems if the report template is frequently changed.

- Each client machine either must have a local copy of the database or have access to a central database management system (DBMS). In the latter case, each client machine would require not only local configuration of a DSN (Data Source Name) if using ODBC, but also a local installation of the database client access software when using a DBMS like MS SQL Server or Oracle.

- If the client is remote from the DBMS, network load can be quite high. A slow network will also slow down report processing. For example, to provide 100 users access to a single report on the network, each client workstation requests the exact same data from the database server at the same time, resulting in 100 database 'hits' for the same information and slowing down database access by requiring 100 transmissions of the same data over the network.

- There is no intelligent report-caching tier to eliminate multiple copies of the report from running at the same time. This may limit the scalability of the solution.

Server/Web Applications

To address the limitations of thick-client applications, the Crystal Reports Engine was enhanced in Version 7 to function in a client/server model. For server/web applications, report processing occurs on a central report server and end users simply view the resulting reports. As the power and functionality available for server/web applications have evolved, the licensing model has been refined from Version 7 to 9.

Crystal Reports 7

Customers were able to freely integrate the report viewing and printing APIs into server/web applications and redistribute them at no additional cost. However, the technology was limited and the single threaded Crystal Reports Engine hindered applications from scaling much beyond 5 concurrent (simultaneous) users.

Crystal Reports 8

The enhanced multi-threaded Crystal Reports Engine significantly improved the scalability of server/web applications to support hundreds of users. With the greatly increased power and value of Crystal Reports, an additional license, the Server Software Access Licence (SSAL), was introduced. To ensure fairness with existing customers, the Professional and Developer editions included – for free – five concurrent Server Software Access Licenses – which is equivalent to the average sustainable user load in Version 7 applications. Additional concurrent or processor licenses could be purchased.

To ease the transition between Version 7 and 8, the server in Version 8 did not technically enforce the 5 concurrent user license restriction. Instead, licensing reports tracked concurrent usage and customers were required to monitor the number of concurrent users to determine if additional Server Software Access Licenses were required.

For runtime rights, customers and developers could integrate the report viewing and printing APIs into their applications and freely redistribute them as long as the 5 free concurrent user license restriction was maintained.

To integrate the RDC Report Creation APIs into server or web-based applications, a developer was required to purchase a Report Creation API license (RCAPI License) for each user that the application is distributed or deployed to. Volume licensing is available from Crystal Decisions' OEM department.

Crystal Reports 8.5

Since customers found it very difficult to regularly monitor the five concurrent user limit in Version 8, the server software in Version 8.5 was technically limited to five free concurrent users. As in Version 8, to increase the number of concurrent users, customers could purchase additional concurrent licenses or, to support unlimited user connections, they could purchase processor-based licenses.

Runtime redistribution rights for server software access licenses were no longer granted as part of the shrink-wrap licensing. Customers interested in redistributing server-based applications using Crystal technologies were required to contact Crystal's OEM department.

Crystal Reports 9

Version 9 introduces a new and simpler licensing model and a new server technology for web-based applications. The new embeddable Crystal Enterprise Report Application Server provides a set of Java, .NET and COM APIs for integrating Crystal Reports into custom web applications.

License management by the Report Application Server (and the RDC and .NET components) has been significantly improved for this release. Rather than using Concurrent Access Licenses as in previous versions, the RDC and .NET "components" and Report Application "Server" have been technically restricted in terms of the number of user requests it can manage at any given point in time. As soon as the request has been processed, the components/server is then immediately available to take a new request. This method more accurately reflects the usage of the software and removes the need to monitor how many users are logged into the applications.

The components/server technology included in Crystal Reports 9 Advanced, Developer and Professional Editions will process three simultaneous requests. When the components/server is busy processing three requests, additional requests will either be rejected or queued depending on the edition of Crystal Reports purchased. As the **Developer** Edition is intended for developing and testing web applications, and not deployment, subsequent user requests will fail and the user will be rejected. The **Advanced** Edition, which is specifically designed to support deployment of web-based applications, adds request caching[*] and queuing capabilities to significantly increase performance. If the server is processing three simultaneous requests, each additional user request is simply queued and is automatically processed when the server finishes processing one of the original requests. For additional performance for the Report Application Server, a **Processor** License is available that is not limited to three simultaneous requests. For additional performance in server/web applications which use the RDC or .NET components, add-on Web Farm/Web Garden Licenses may be purchased. These licenses enable developers to replicate an application which uses these components across multiple processors on a single server and/or across multiple servers.

In terms of end user report creation and modification capabilities, customers can purchase the Advanced Edition for access to the RAS report creation and modification API set at no additional charge.

Customers interested in redistributing web or server-based applications using Crystal Decisions technologies are required to register the details of their application on the Crystal Decision web site. For customers who integrate the server technology provided in the Advanced Edition, a copy of the Advanced Edition must also be purchased for each company to which the application is being distributed. Volume licensing information is available from Crystal Decisions' OEM department.

For complete details on the Crystal Reports 9 licensing model and how the server technology manages user requests, please visit:
http://www.crystaldecisions.com/products/crystalreports/licensingab.asp

Caching capabilities provided for the Report Application Server only.

Web Report Delivery

In addition to application integration, Crystal Reports customers have also been provided with web deployment capabilities designed for a more "out-of-the-box" experience. This enables customers to publish reports to the Web for immediate end user access and viewing. For developers, many used this solution for URL-based reporting – the ability to embed report credentials in a URL for web applications.

Version 7

In Version 7, the single-threaded Web Reports Server provided scalability to support up to 5 concurrent users. This engine was provided as a free runtime component in the product. In Version 8, the enhanced multi-threaded Crystal Reports engine significantly improved scalability. As outlined in the previous section (Server/Web Applications), customers were entitled to deploy and/or redistribute 5 concurrent Server Software Access Licenses (SSAL). This meant that 5 reports could be simultaneously accessed and viewed via the Web. Additional concurrent or processor licenses were also available for purchase.

Version 8

To ease the transition between Version 7 and 8, the Web Component Server in Version 8 did not technically enforce the 5 concurrent user license restriction. Instead, licensing reports tracked concurrent usage and customers were required to monitor the number of concurrent connections to determine if additional Server Software Access Licenses were required.

Version 8.5

In Version 8.5 Developer and Professional Editions, a new solution was introduced for web reporting, Crystal Enterprise Standard. A more powerful solution, Crystal Enterprise Standard included both on-demand and scheduled reporting. As in Version 8, 5 concurrent access licenses (per deployment) were provided with each Crystal Reports purchase for internal deployment.

The license agreement prohibits the combination of the 5 free licenses within a single deployment. In other words, customers could not combine free licenses to increase the scalability of a single system. Runtime rights were available from Crystal Decisions' OEM department.

Note: Effective February 2003, the Crystal Enterprise Standard special offer is no longer available in Crystal Reports 8.5.

Version 9

In Version 9, Crystal Enterprise Standard is now offered in the new high-end Crystal Reports Advanced Edition. Any customers who purchased maintenance on Crystal Reports Version 8.5 and registered the included Crystal Enterprise Standard were offered a free upgrade to Crystal Enterprise Standard Version 9 as a special customer appreciation incentive. As in Version 8.5, runtime rights can be obtained from Crystal Decisions' OEM department.

Broadcasting Applications

Using the server or components in Crystal Reports, some customers may build an application to automatically broadcast or distribute reports in any format (eg. .RPT, Excel, Text, PDF) to a large user base. For example, providing an automated system to schedule reports to automatically run on a recurring basis and electronically deliver the resulting report via email, to a network folder, etc. Introduced in Version 8, the Crystal Broadcast License is required for any automated applications that broadcast reports directly to users or to a location accessible by greater than 50 users.

In Version 9, some changes have been made to simplify the pricing structure. This license has also been renamed, the Crystal Reports Broadcast License and now applies only to Crystal Reports. (A new Report Distribution License has been introduced for Crystal Enterprise.) Developers who purchase and register Crystal Reports 9 Advanced Edition will be extended the right to use Crystal Reports as part of an automated, static Report Distribution System (Crystal Reports 9 Broadcast License) at no additional charge. For those using the other editions of Crystal Reports, the Crystal Reports Broadcast License may be purchased as an annual or perpetual (per version) fee.

Conclusion

Although Crystal Reports licensing has changed over the past few Versions, it mainly affects new functionality and value that has been added to the product for web applications and web-based report distribution. The free runtime provided for thick-client Windows applications throughout the history of Crystal Reports, continues to be offered for free. For additional questions or information on Crystal Reports licensing, please contact your local Crystal Decisions representative or Crystal partner or visit our web site at: http://www.crystaldecisions.com/crystalreports