A Comparison of Enterprise Reporting Tools

Crystal Reports and Web Intelligence

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About DCS Consulting:

DCS Consulting is a Business Intelligence and Data Warehousing (BI/DW) professional services firm specializing in providing highly experienced consultants.

- Located in Washington DC Area.
- Our customers range from DOD and Federal Civilian clients to Health Care, Financial Services, Consumer Goods, & Energy.

Technology Expertise:

- SAP Business Objects
- Visual Cue
- DOMO
- CGI Momentum Financials
Business Intelligence is focused on reporting and analysis of data residing in either enterprise data warehouses (EDW) and/or data marts.

- **Operational Reports**
  Displays data with rich presentation and within a structured layout (i.e. rows and columns).
  Primary Tool: Crystal Reports

- **Query and Analysis**
  Interactive methods to query data, present data in an ad-hoc manner, and to find information on an as-needed basis.
  Primary Tools: Web Intelligence

- **Dashboard Management**
  Graphical interfaces and real-time methods to provide guided analysis and to intuitively monitor organizational metrics.
  Primary Tool: Dashboards (formerly Xcelsius)
Crystal Reports vs Web Intelligence (WebI)

- **Crystal Reports** can access data directly from a data source or through a Universe.
- **Web Intelligence** must access data through a Universe.
When to Use Crystal Reports?

- **Ideal Tool for:**
  - Complex, highly-formatted report design
  - Creating canned report templates
  - High volume report distribution (publications)
  - Tight web / application / portal integration
  - Offline/online report viewing

- **Less than Ideal for:**
  - Out-of-the-box web-based report design
  - Ad-hoc query & analysis
  - Self-service reporting
When to Use Web Intelligence?

**Ideal Tool for:**
- Web-based report design
- Ad-hoc query & analysis
- Offline/online report viewing
- Answers unpredictable questions
- Providing access to novice/casual users

**Less than Ideal for:**
- Highly-formatted reports
- High volume report distribution (publications)
- Tight web / application / portal integration
Crystal Reports: Operational Reporting Tool

- Perfect solution for canned or published reports
- Create high-fidelity, pixel-perfect reports
- Access almost any data source
- End users view, print, and export reports
- Multiple deployment options:
  - Crystal Reports Designer: Client developer tool (Most Common)
  - Crystal Report Server: Web-based environment for organization-wide use
Crystal Reports - Features

Intuitive Report Development

- Report Templates
- Design Wizards
- Experts
  - Formatting
  - Grouping / Sorting
  - Section
  - Data Access

Template Expert
Group Sort Expert
Numerous Methods for Report Viewing and Interaction

- Advanced / Hierarchical Grouping
- Running Totals
- Parameters
- Alerting
- Guided Navigation
- Sorting Controls
- Hyperlinks
- Drill-Downs
Crystal Reports provides a long list of available data sources

In addition report authors can write their own SQL commands.
Crystal Reports – Developer Features

- **Crystal or Basic syntax (very similar to Visual Basic)**
  - 240 Functions that Control...
    - Calculations: Median, Mode, Standard Deviation, etc.
    - Reporting Formatting
    - Complex Logic
- **Custom Functions**
- **Formula Expert**

Through Code, Developers can Control Formatting, Selection, Calculations, and Logic

Developers can Program Using Either Basic or Crystal Syntax
**Advanced Programming Capabilities**

- **Interface Solution Deployment Kits (SDKs):**
  - J2EE
  - .Net
  - COM

- **Integration of Reports**
  - Web Applications
  - Client / Server Apps
  - Portals

- **Embedded Reporting Components**

- **Custom Add-ins**
  - Create custom add-in modules
  - Shows up under Add-ins menu in Crystal Reports
  - Implement custom workflows

- **User Function Libraries (UFL)**
  - Extend function library of Crystal Reports
  - Call external executable (exe’s) from inside the report

- **Integrated Development Environments (IDE)**
  - MS Visual Studio
  - Borland JBuilder
  - BEA WebLogic Workshop
  - Borland C# Builder

Develop and Integrate Custom Add-Ins
- Advanced Charting
- Report Distribution
- Web Publishing
- Version Control
- Custom Workflow
No Client Installation Necessary for WebI
Leveraged through Internet Browser
Users ask business questions
Users develop reports / charts / ad-hoc queries
Ability to drill-down, drill-up, drill-through
Filter and prompt data
Intuitive to end-users
Data source must be a Universe!

WebI: Web-Based Query & Analysis

Web URL

New Web Intelligence Document
WEBI Rich Client: Off-line Query & Analysis

- **Same Functionality as Web Intelligence**
  - Users develop reports / charts / queries
  - Users ask business questions of data
  - Ability to drill-down, drill-up, drill-through
  - Filter and prompt data
  - Intuitive to end-users

- **Client Installation on Desktop**
  - Installed from Infoview Portal

- **Off-line Access of Data**

- **Access to Universes and Excel Files**

WEBI Rich Client – Full Client Installation

Off-line Logon

Same Reporting Interface as WEBI
Universe: Semantic Middleware Layer / Metadata

- Business Representation of a Database
  - Resides between a database and reports/queries
  - Provides an interface to create ad-hoc queries

- Foundation of Web Intelligence (WebI) Reports

- Optional Data Source for Crystal Reports

Universe - Translates Databases into Business Terms
Self Service Reporting – Ad Hoc Query Creation

- Generates Answers to Business Questions
- Ideal for Business Users and Analysts
- Intuitive Drag & Drop Interface

Web Intelligence Designer—Drag & Drop Data Fields and Filters to Document

Run Query to View Results
Highly-Interactive Charts and Data

- Convert Data into Charts and Graphs
- View Data Graphically or in a Table

Data Displayed in a Table

Data Displayed in a Chart
Drilling Results

- Analyze the Detailed Data behind the Displayed Results
- Performing On-Report Analysis
- Types of Drilling
  - Drill-Down
  - Drill-Up
  - Drill-Through

Drill Results to a Lower Level of Detail
Drilling Results

- Analyze the Detailed Data behind the Displayed Results
- Performing On-Report Analysis
- Types of Drilling
  - Drill-Down
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Drill Results to a Lower Level of Detail
## Crystal vs. WebI Product Comparison

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<td><strong>Typical Use(s)</strong></td>
<td>• Operational reporting&lt;br&gt;• Pre-built report templates&lt;br&gt;• High-volume publishing&lt;br&gt;• Predictable questions</td>
<td>• Ad-hoc query &amp; analysis&lt;br&gt;• Self-serve reporting&lt;br&gt;• Unpredictable questions</td>
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