



CASE STUDIES

Aspose.Cells for .NET Case Study



Acumen

Developing Acument Fuse™

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About Acumen Fuse

Acumen Fuse™ is a metrics analysis and visualization tool assessing not only schedule, but cost, risk, earned value and project performance as well.

Using libraries of metrics, Fuse™ analysis provides a powerful means of pinpointing problematic areas and activities within a project.

Fuse imports data from other project management platforms such as Microsoft Project and Primavera. Once analysis is complete it is exported to the Microsoft Office suite including Excel, PowerPoint and Microsoft Word. In order to achieve this it used Microsoft Office integration.

Slice & Dice Analysis by Fuse Ribbons

Advanced slice and dice analysis is achieved through a unique visualization approach using patent pending Fuse ribbons. Ribbons can be generated by activity fields and custom attributes.

Using Fuse ribbons, data from multiple sources can be integrated into a single analysis e.g. analyze schedule data from Microsoft Project and cost data from Microsoft Excel in a single workbook. This is achieved using the Aspose.Cells for .NET component library enabling Fuse users to directly export Fuse data to their Microsoft Office tool of choice. Given the highly interactive nature of Fuse (in terms of data analysis), this capability is key to users of Fuse.

Analyze by Phase/Period

Unlike other metric analysis tools, Fuse provides the ability to analyze by user-definable time phases.

Pinpoint not only which disciplines is the root-cause of issues, but also determine when in time project tripwire exceptions will occur.

These early warning indicators are the best means of pro-active schedule maturity development- fix the problem before it happens.

Again, having the ability to export this time-phased data to Excel is key. Using the Aspose .NET suite, we have provided a means of user's dynamically publishing phase analysis data directly into Excel.

Compare Multiple Projects & Scenarios

In addition to running a standard Fuse analysis, use the Comparison Analyzer to compare similarities and differences between ribbons, paths, metrics and phases within a project.

Determine which activities trigger multiple tripwires; combine cost, schedule, risk and earned value metrics into a single analysis.

One challenge of multi project reporting is that each set of results requires its own export. Using the Aspose .NET components embedded within Fuse, we are able to publish results from multiple projects into a single Excel file (containing multiple worksheets for each of the projects).

Insight through Path Analysis

Advanced reporting can be achieved through a Fuse path analysis. Select any two activities or milestones within a schedule and analyze all paths between the two points.

Combine with metrics such as remaining cost, duration and risk exposure to reveal which upcoming paths in the project will cause the biggest issues, hence requiring the most attention. Path ribbons can be exported to both Microsoft Word and Excel through the embedded Aspose .NET components.

Requirements Scenario

Our development team had a requirement to integrate output from Fuse into the Microsoft Office suite of tools. One of the key requirements was to integrate with Microsoft Excel and Word. There were several options available to us including native interaction with Microsoft Office through the Office API. However, after some initial testing we found that there were too many subtle but key differences between the 2003 and 2007 versions of Office that made such direct integration impractical. Also we wanted a solution that didn't necessarily require Microsoft office to be present on the desktop. The key requirements were as follows:

1. Export of project analysis data into Microsoft Word and Excel.

2. Saving of Fuse data as Microsoft Excel files.
3. Saving of multiple projects from Fuse into a single XLS file.
4. Generation of an executive report from Fuse into Microsoft Word.

After researching a couple of alternatives, we decided on the Aspose .NET component suite for several reasons:

- Support for more than just XLS integration – Aspose opened up our options to include Microsoft Word, PowerPoint and PDF.
- Ease of implementation – the Aspose .net components were easy to implement into our existing .net codebases.
- No redistribution fees through the OEM version of Aspose – this was a key requirement for us.
- Stability of the components – our testing showed that the components were robust and scalable for large amounts of data (our projects have up to 100,000 line items of data within them).

Solution Implementation

Acumen Fuse is a .NET application that uses Microsoft WPF components. The tool is highly interactive and graphical in nature. Once project analysis is complete, the results are published from Fuse into Microsoft Word and Excel documents using the Aspose components.

The Aspose components are embedded within the Fuse product so that users simply click on the Publish button (see screenshot below) and the output is sent to Word and Excel. Users can then manipulate data in Excel before printing.

Figure 1: Fuse ribbons.



The export to Microsoft Word feature is used to create executive briefings whereas the export to XLS is used for analysts.

Figure 2: Fuse Analysis

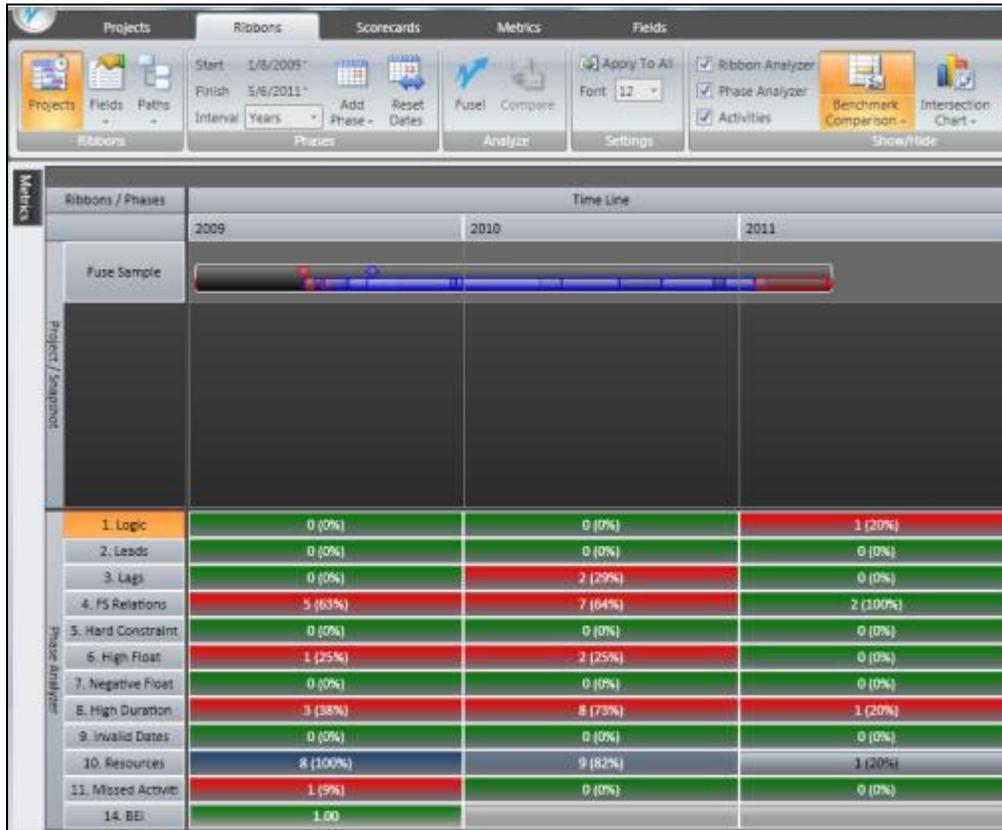
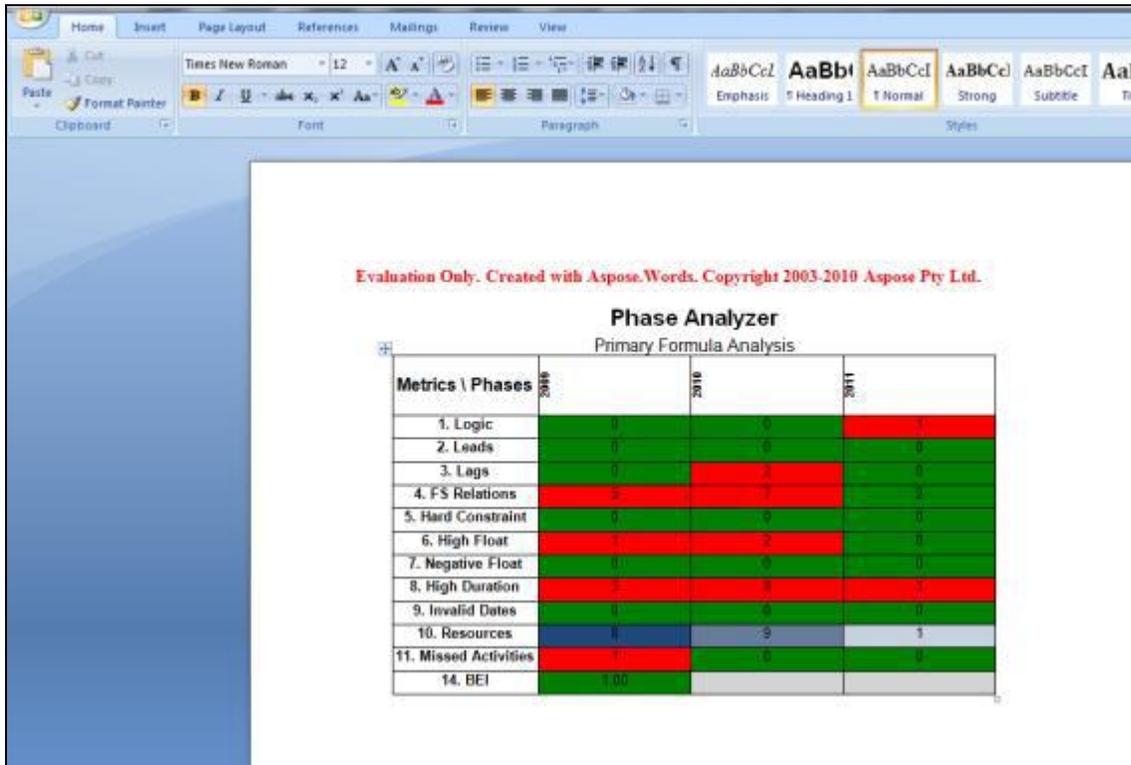


Figure 3: Data exported to Microsoft Word with Aspose.Words



Phase Analyzer
Primary Formula Analysis

Metrics \ Phases	2016	2018	2011
1. Logic	0	0	1
2. Leads	0	0	0
3. Lags	0	1	0
4. FS Relations	5	7	0
5. Hard Constraint	0	0	0
6. High Float	1	2	0
7. Negative Float	0	0	0
8. High Duration	3	1	1
9. Invalid Dates	0	0	0
10. Resources	0	9	1
11. Missed Activities	0	0	0
14. BEI	0	1.00	

Currently we are taking advantage of the Microsoft Word and Microsoft Excel integration that Aspose offers. While such integration may on the surface seem rudimentary, in reality, it is the number one requirement of our users to be able to achieve such integration.

Benefits

- Fast development integration.
- Powerful components.
- Reliable components.
- Accelerated time to market.
- Excellent technical support.
- Support for multiple version of the Microsoft Office suite.

Figure 4: Main Acumen View

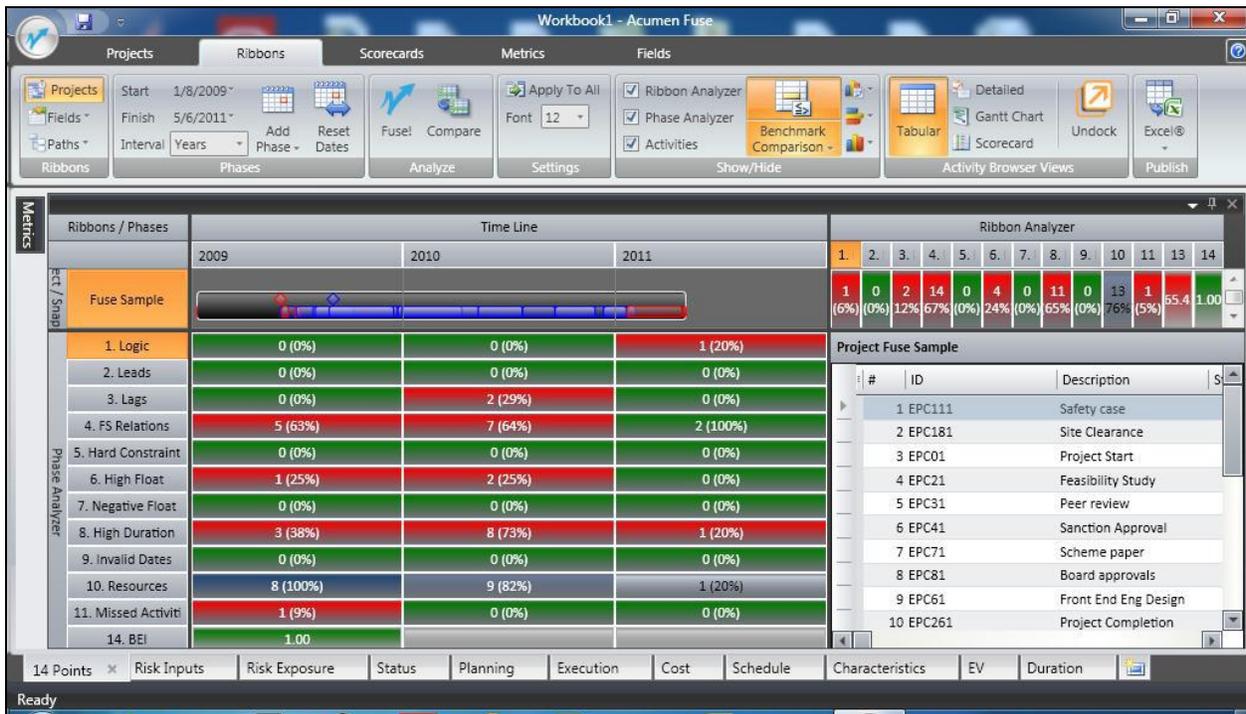
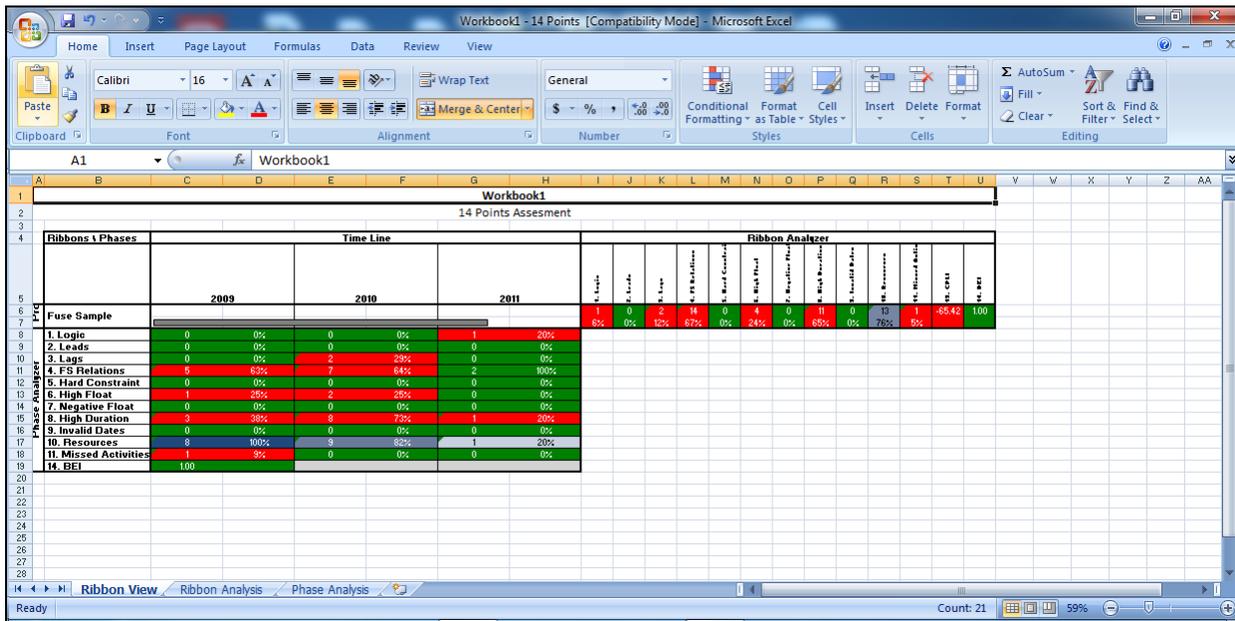


Figure 5: Output report in Microsoft Excel, exported by Aspose



Future Implementations

Beyond the current implementation, there are two key areas that we are looking into expanding our Aspose usage.

- Firstly we are looking at using Aspose for Microsoft Project integration. This will eliminate the need for Microsoft Project to be present on the desktop for Fuse integration together with enhanced performance.
- Secondly, we will be implementing the PDF capabilities of Aspose into Fuse in the next major release. This will be a massive benefit to users wanting to publish directly to Adobe PDF without having to use a 3rd party PDF printer driver.

Conclusion

The Aspose product suite and support is second to none. We couldn't have done what we did without this solution. Not only does the Aspose solution give our end users a world class integration with Microsoft Office, it also enabled our development team to develop the Fuse platform in a timely manner.

We are very much looking forward to further utilizing Aspose as we continue to develop Acumen Fuse.

Any developer looking to integrate with Microsoft Office needs to use Aspose!