Spreadsheet Management and Governance

MarketUpdate

Introduction

Despite the fact that products to manage and govern spreadsheets have been around for more than a decade, they remain largely unmanaged and ungoverned. This is a problem for a variety of reasons. There is a direct cost issue: one medium-sized bank that shall remain nameless, audited its spreadsheet real estate to discover that it had over 100TB of data storage devoted to spreadsheets, many of them copies or older versions of current spreadsheets. Then there are horror stories, which can either lead directly to potentially huge costs (through either errors or fraud) or fines. For a detailed list see ***www.eusprig.org***, though this is incomplete: for example, we know a utility company that was fined £12m for inadvertently emailing out a spreadsheet with passwords and log-in details. For many companies it is not so much the costs that are worrying but the reputational impact of bad press.

From a pure management perspective, governance of spreadsheets is not getting easier. We recently came across a spreadsheet that contained 1,083 individual worksheets. Understanding and managing that sort of complexity is not trivial. And, while this is an extreme example, it is symptomatic: spreadsheets tend to expand and grow – becoming more complex – as time goes by. This leads to two problems. Firstly, you have to maintain all the relevant links and relationships, and ensure that they remain intact. Secondly, such spreadsheets are subject to the knowledge of the creator. If he or she leaves someone else will have to try to understand the logic that underlies that spreadsheet, and that is not easy.

Regulatory compliance is also a major issue, especially in heavily regulated industries such as financial services, healthcare and life sciences, utilities and so on. Moreover, this is getting more onerous. For example, BCBS 239 effectively means that you need to be able to demonstrate and explain the dependencies that exist across relevant spreadsheets and with other data sources. Previously, such understanding was more a question of best practice rather than a regulatory requirement. Further, with the advent of the General Data Protection Regulation (GDPR) in the EU, and other similar regulations in other constituencies, spreadsheet compliance now applies to any company that holds any personal data in spreadsheets, though for some companies that may only mean relatively lightweight requirements.

Market trends

There are two main ways to look at the market for spreadsheet management/governance. If you think of it in terms of business use cases then the market falls into two categories: heavily regulated environments where compliance and reputational risk are major concerns, and other industry sectors where issues tend to be more around operational accuracy and productivity. Of course, the latter are also important to the former, though not – at least, historically – the other way around. We add the caveat because the advent of the General Data Protection Regulation (GDPR) potentially means that the compliance aspects of spreadsheets apply across a much broader range of industries.

A second way of characterising spreadsheet management/governance is in terms of what the various products in the market are seeking to achieve. These can be broken down into four major areas:

1. **Error and defect detection –** over the years (especially since it acquired Prodiance in 2011) Microsoft has significantly increased its capabilities in this area, so this does not have the emphasis it once had, though there remain areas of weakness in Excel. And, of course, many users are still using older versions of Excel. However, this is mostly a commoditised market and you must do something quite different to stand out in this area. One company that does, is Infotron, and a discussion of that product is included in this report. Vendors in category 4 all provide error and defect detection.
2. **Ensuring that users are deploying the correct version of a spreadsheet.** For example, if you have a pricing model built using a spreadsheet, and that model is updated every month, then you want to ensure that the most up-to-date pricing is being used. EASA, the vendor in this space that is profiled in this paper (and which does rather more than the first sentence suggests), is often used in complementary fashion to the products covered in category 4, and we know of several companies that combine EASA with other solutions. Note that EASA supports the provisioning of models built using all sorts of tools (MATLAB, R, and so on) as well as via spreadsheets.

3. **Automating spreadsheet processes.** For instance, if you regularly create or update spreadsheets by adding data from external or third-party sources then doing this manually is error-prone and time consuming, and you would prefer to automate this ingestion process. Again, we are covering a single product in this area, this time from FreeSight Software. This is a self-service end user tool rather than a back-end governance product. It is also marketed as a data preparation product and it has the sort of governance capabilities that one would expect from a product in that environment. These include data profiling so FreeSight could reasonably be used as a lightweight tool to discover spreadsheets containing personal data for GDPR purposes.

4. **Monitoring and/or control of who does what with your spreadsheets.** Vendors in this space tend to be (but are not exclusively) focused on heavily regulated industries such as the financial sector. Typical processes involve the automated discovery of spreadsheets and the identification of their criticality and risk. Thereafter, some companies just monitor what you do with your spreadsheets while others are more prescriptive. All the products in this category provide error and defect detection, and can automate spreadsheet processes. This is the main area of focus for this report with five vendors discussed. These are Apparity, Boardwalk Technologies, Cimcon, ClusterSeven and Finsbury Solutions.

Needless to say, there are number of other differences between the products in this market, most of which emerge from the trends we are seeing in the market, which we will discuss next.

Market trends

It is some years since our last in-depth look at the spreadsheet management/governance space. The first major change is that our last report was relatively recently after the acquisition of Prodiance by Microsoft. This meant that traditional error, defect and fraud detection was still an active market as most users of Excel were still reliant on older versions of that product. For obvious reasons this is a diminishing market and most of the smaller vendors that focused at this level have limited expectations going forward. Where there remains an issue, is in finding defects in very large, complex spreadsheet environments. Many organisations in this position will opt for a full-blown spreadsheet governance solution but Infotron is a viable alternative that uses graph technology to visualise relationships both between data elements and across spreadsheets and other data sources.

The second major change is that it used to be assumed that you needed to move and store all your critical spreadsheet assets into a single location, and distribute and manage those spreadsheets from there, typically from a relational database. While this is entirely appropriate in some instances, it can be a complex, expensive, and time-consuming process to set up. This has resulted in a divergence within the market, with some vendors retaining their traditional approach while Apparity, on the other hand, has positioned its solution so that you do not have to worry about where you store your spreadsheets, they are governed wherever they are saved rather than through centralisation. The introduction of cloud-based offerings is also simplifying the implementation of governance processes.

More broadly, the regulatory regimes under which organisations must operate has dramatically changed. This has just led, not just to more compliance, but – at least in financial services and other heavily regulated industries – to regulators becoming much more specific about the use and governance of spreadsheets. This increased concern with compliance has led to another trend within this space, which is to integrate with third party governance, risk and compliance (GRC) solutions. The most popular of these appear to be RSA Archer and IBM OpenPages, although one company is partnering with Metricstream.

A further trend applies to governance of non-spreadsheet assets. It has always been the case that the major players in this market have been able to manage other assets such as Access databases, PowerPoint presentations and so forth. However, these were rarely used. What is interesting is that there is a growing demand amongst users for inventory management systems that keep details of not just spreadsheets and the assets just mentioned but also such things as Qlik or Tableau desktops, MATLAB implementations and even R and Python users. In other words, making this part of a holistic approach to governance that means that you know who is doing what with which datasets.

Finally, we are also starting to see the implementation of machine learning within spreadsheet governance products. At present this is relatively limited, but we believe that there is scope for further innovation in this area. On a different but related front, EASA can be used as a deployment engine for machine learning (TensorFlow) models.

Conclusion

All the products featured in this Market Update have significant features and are strong contenders within their various markets. While we have scored EASA, FreeSight and Infotron independently we have directly compared the remaining five products. In this context, it is worth noting that while Apparity, Cimcon, ClusterSeven and Finsbury Solutions all target banks and other heavily regulated sectors within financial services (as well as other verticals), Boardwalk Technologies does not: it has strong support for financial applications, but that is not the same thing. Boardwalk does not, for example, have offices in either New York or London.

We have evaluated the five products just mentioned against five criteria. These are:

- **Architecture:** how the products are structured, whether they are available piecemeal, performance and scalability, requirements for a third-party database, and so on.
- **Functionality:** discovery of spreadsheets, error detection and remediation, auditing, risk assessments, prioritisation, control and/or monitoring, and so forth.
- **Collaboration:** how easy does the product make it for people to work together? Also includes ease of use, self-service and similar considerations.
- **GRC:** the extent of support for compliance as well as partnerships with third-party vendors in this market.
- **EUC inventory:** the extent to which the product supports the discovery and management of non-spreadsheet end-user computing resources.

There are three points to note. Firstly, Boardwalk does not support non-spreadsheet inventory and it therefore has no score in this category. Its overall score has been scaled so that the company is not disadvantaged by this fact.

Secondly, while still discussing Boardwalk: this offering was designed from the outset to enable collaboration and, needless to say, it scores highest in this regard. If collaboration is not a major issue for you – spreadsheet management is often more about compliance and risk management – then you may want to mentally reduce Boardwalk's overall score. On a similar theme, we especially like Apparity's architectural approach of not using a relational database: thereby reducing licensing costs and minimising disruption during implementation. Again, if using a third-party database is not an issue for you, then Apparity could similarly be downgraded. Bearing in mind that Apparity and Boardwalk are the two highest scoring products in this Update, these are important considerations.

Philip Howard
Research Director, Information Management

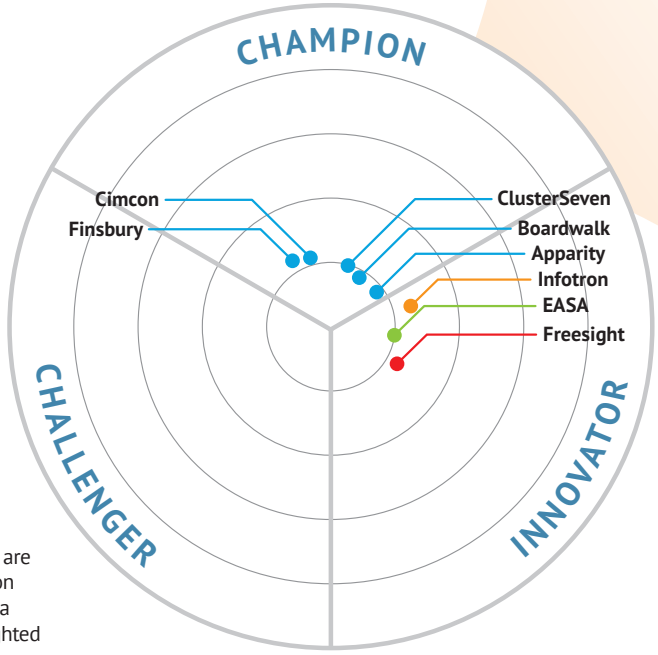


Figure 1:
The highest scoring companies are nearest the centre. Their position in the sectors is determined by a benchmark score, which is weighted towards scale and number of customers, and their Innovation score.

Bloor
Bloor Research International Ltd
20–22 Wenlock Road, LONDON N1 7GU, UK
Tel: **+44 (0)20 7043 9750** Web: **www.Bloor.eu** Email: **info@Bloor.eu**

Apparity

Apparity is one of the leading spreadsheet management vendors. It provides the ability to discover what spreadsheets you have, identify the criticality or risk associated with each spreadsheet, detect any errors or defects within those spreadsheets, discover broken links, and put those (or the most critical) spreadsheets under management control.

This is pretty much a definition of a spreadsheet management offering. However, Apparity differs from its rivals in one major respect. This is that *"putting spreadsheets under management control"* typically means storing those spreadsheets within a relational database and then serving spreadsheets from there. Amongst other things, this allows comparisons between spreadsheets and removes the ability to copy spreadsheets and email them (all you do is email the URL) to all and sundry.

The problem with this approach is that storing your critical spreadsheets on a central database server is time consuming and expensive. What Apparity does is two-fold. Firstly, it decomposes your spreadsheets into XML and treats all changes in the same way that you would treat source code (which is exactly what spreadsheets are, under the covers). This allows Apparity to leverage the scalability, efficiency and accuracy of source code management technology while allowing you to track changes, provide version control, and audit your environment in a way that eliminates the performance and financial overheads associated with the conventional approach of a relational database

The second thing that Apparity does is to impart a fingerprint to each spreadsheet that needs to be audited and tracked. What this does is to put a unique identifier on each spreadsheet of interest, and that fingerprint remains with all subsequent versions of that spreadsheet, which can be tracked by the software. It doesn't matter if the spreadsheet is renamed as something else, copied or moved to any other part of the organisation, he fingerprint will still be there, which isn't necessarily the case when rival spreadsheet management technology may mandate that managed spreadsheets have to be stored in specific locations to ensure they can be tracked. A further advantage is that if you have identified that two spreadsheets are linked, then spreadsheets can still be tracked even when that link has broken.

A major new capability (released December 2017) is the Model Map Explorer that provides a real-time view of the entire spreadsheet population and their upstream and downstream connections with other file types. This will allow for complex model impact analysis and an easier exploration of risks associated with data flows. This has particular relevance to regulations such as BCBS 239. The company already offers an inventory management solution for end user (software) computing (EUC) assets and has already integrated its solution with third party governance, risk and compliance (GRC) products such as RSA Archer and IBM OpenPages, as well as with human resources systems. Apparity is usually implemented on premises but there is a cloud-based alternative available.

Apparity
3475 Piedmont Road, Suite 450
Atlanta, GA 30305, USA

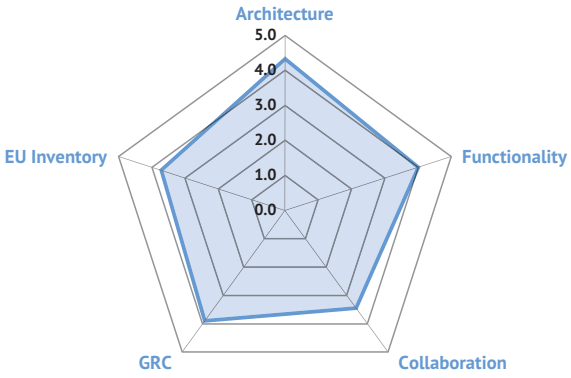
www.apparity.com

Strengths

- Apparity's biggest differentiator is that the combination of source code management (SCM) and fingerprinting means that you do not need to centralise all your spreadsheets into specific folders and you do not have the upheaval and expense of relying on relational databases. We can understand why this would be attractive to many users.
- While it is not alone in this, we like the fact that Apparity has integrated with popular GRC solutions. EUC inventory management also appears to be becoming more popular so this is also a well-judged development.

Threats

- Apparity is the only major company in this space that does not rely on a relational database. As such it is swimming against a competitive tide and this can be difficult when you are evangelising a different approach.



Boardwalktech

Boardwalktech was founded in 2004 and its premise then, and now, is that it is better to have a spreadsheet environment that is collaborative, rather than one that relies on people copying spreadsheets and emailing them to each other. To support this concept the Boardwalk Application Engine (BAE) puts all your spreadsheets into either an Oracle or SQL Server database (either on-premises or in the cloud) and secures and manages them from there. Things such as broken links are identified automatically when you load the spreadsheets into the database. The actual structure of the data storage is at cell level – Boardwalk focuses on securing and managing the data in your spreadsheets rather than the spreadsheets themselves – and uses a patented approach. Changed data is appended to the database so that spreadsheets are never locked, and this method aids in the resolution of any conflicts that may arise after offline working. Compliance dashboards are provided directly by the software and there is an option to enforce check-in and check-out, but this is not required. The product includes the sort of discovery capabilities, criticality assessments and comparisons that you would expect from a leading product in this market.

The use of a relational database – at least in the way that it is implemented in BAE – has the important benefit of enabling third party integration. Firstly, it supports business intelligence tools such as Tableau, which can be used to discover trending information, and for more general analytics purposes. Secondly, you can integrate with third-party application environments such as SAP ERP, Microsoft Dynamics and Salesforce.com CRM suite. And thirdly, you can integrate with governance, risk and compliance (GRC) products. Boardwalk has a partnership with Metricstream, which is a GRC vendor.

Unlike some other vendors in this space, Boardwalk is solely focused on process data managed as a grid—most often in spreadsheets, where other suppliers support other types of end user computing software. On the other hand, Boardwalk supports not just Excel spreadsheets but competitive products as well, such as Google sheets. Further, unlike the other major players in the spreadsheet management market, Boardwalk does not target financial institutions per se: it does not, for example, have offices in either London or New York. It certainly targets financial applications but not the sort of financial models that banks, for instance, tend to build in Excel where there's a single user interacting with the data and there's no need for data sharing or compliance.

Boardwalktech
10050 N Wolfe Rd
Cupertino, CA 95014, USA

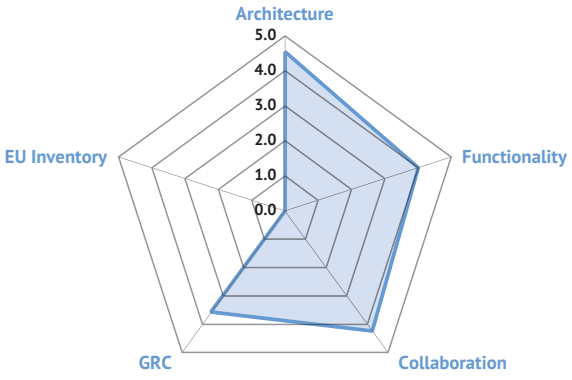
www.boardwalktech.com

Strengths

- A major focus for Boardwalk is in support of rapid development of spreadsheet-based models and applications, and of automating spreadsheet processes. While other vendors have capabilities in these areas they tend to focus more on the management and governance aspects of spreadsheets as files and do not put the same emphasis as Boardwalk on supporting development and automation. It is worth noting that Boardwalk refers to itself as a business process automation company rather than as a spreadsheet management vendor.
- We like the integration with third party environments, especially the ability to integrate with ERP applications form the likes of SAP, Oracle and Microsoft. This will be especially useful in some development environments.
- We approve of the cell-level approach to managing spreadsheet data and we like the emphasis on collaboration.

Threats

- There are no immediate threats to Boardwalk. By staying away from the financial services and pharmaceutical sectors that other vendors target, it has developed a significant market where it rarely meets those other vendors. The danger is that those rival companies will wake up to the fact that there is a significant additional market that they could address.



CIMCON Software

CIMCON Software is one of the longest established vendors in the spreadsheet management market, having been originally founded in 1998. Initially it focused on the pharmaceutical and sciences sector – before broadening its portfolio to cover spreadsheets across all verticals, albeit with a focus on financial services. That said, the company has never exclusively emphasised spreadsheets per se. For example, it used to offer products such as SOX-XL and SOX-XS, which were focused on Sarbanes-Oxley compliance. Now its primary products are EUC Insight Discovery, EUC Insight Change Management and XL Audit, where only the last of these – a desktop error detection and remediation tool – is specifically about Excel. The two EUC (end user computing) server-based products help reduce risks beyond spreadsheets and extending to Access databases, as well as models and tools built using a variety of applications and scripting languages.

The EUC Insight Discovery module incorporates inventory management/reporting capabilities and is also used to discover what EUC assets you have (and where), identify which of those assets are most critical to your business and therefore pose the most risk if something goes wrong. If errors are detected in spreadsheets, you can correct them using XL Audit – and it generates an enterprise-wide data lineage map so that you can visualise how data is used and reused, and helps to ensure on data integrity. The EUC Insight Change Management module builds on the results of Insight Discovery by providing the ability to automatically monitor high risk EUC assets and raise alerts when any changes are made. There is the capability to put preventative controls around the changes that may be allowed, or you can enforce an approval process as a pre-condition of acceptance of those changes. The product ships with more than 30 pre-built inventory and compliance reports.

A notable point is that you can simply leave all spreadsheets in situ and rely upon the capabilities provided by the software for discovery and implementation of automated compliance processes. The products have an architecture, wherein a centralised, secure, record of all controlled spreadsheets is used. The way that this works is that the server automatically saves the last copy into the server to compare to new versions on a scheduled basis. Users continue to work with their existing spreadsheets on shared file servers (on-premises or cloud) and may hardly notice any change to their existing work processes. In effect, in the background, EUC Insight performs governance, risk and compliance (GRC) functions, together with role-based security, version control (down to the cell level) and so on.

CIMCON Software
234 Littleton Road,
Westford, MA 01886, USA

www.cimcon.com

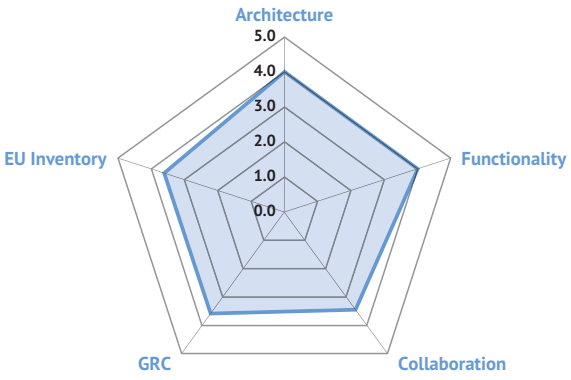
The company is actively exploring partnerships with third-party vendors in the GRC space, as well as with suppliers of cloud-based enterprise content management. In this context, it is worth commenting that CIMCON is aggressively leveraging public cloud platforms to make its capabilities easier and less expensive to install and maintain.

Strengths

- We like the fact that any centralised discovery or controls deployed by Cimcon are invisible to end users. This will significantly reduce any burden on the line of business that might otherwise occur.
- The different elements of CIMCON's solutions mean that you can use what you need rather than having to license a large, (expensive) monolithic solution and deploy on-premises or in public or private clouds.
- CIMCON's proven ability to reduce the risk of EUC errors and support compliance with multiple regulations is a significant benefit.

Threats

- Cimcon is a little bit behind the curve when it comes to partnering with third-party technology partners such as GRC vendors. We are pleased that CIMCON is addressing this, but some of its rivals have already announced such partnerships.



ClusterSeven

ClusterSeven was one of the founders of the spreadsheet governance and management market: one of the first companies to offer capabilities that went beyond error and fraud detection. Its emphasis has always been on a non-prescriptive approach, providing what the company has sometimes described as a CCTV style deployment, which monitors what you do with spreadsheets but doesn't force you to do one thing or another. This has proved particularly popular with banks and other large financial institutions where trading algorithms are often developed using (complex) spreadsheets, often involving a lot of macros.

The basic approach taken by ClusterSeven is that you first discover the spreadsheets that you have (which is an automated process), you then create an inventory of those spreadsheets that need to be governed, which you prioritise based on policies that you define. This will typically be based on a risk-assessment, which may be both technical and material. Inventoried spreadsheets are monitored. You can compare spreadsheets (either different versions of the same spreadsheet or different sheets) and there are facilities to do things like trend analysis. There are more than 60 pre-defined rules that ship with the product – you can define more if you want to – and these can be combined into "profiles" to support activities such as GDPR compliance or, more generally, best practices.

While ClusterSeven has been successful in its traditional markets the scale of its solution has meant that it has relatively few users outside the financial community. To address this, the company has now introduced a cloud-based service that is specifically targeted at the requirements of a department or business that uses spreadsheets as part of critical processes but not to the same extent as a financial services company. Initially this offering provides both risk assessments and comparisons, but how it develops going forward will depend on user requirements.

Like most of the leading vendors in the spreadsheet governance space, ClusterSeven is not limited to managing spreadsheets but also caters to other end-user (software) computing products. Historically, this has typically meant Access databases, PowerPoint presentations, and so forth. However, going beyond this, the company has introduced an Inventory Management offering that covers other environments such as MATLAB, R and Python, Qlik and Tableau users, and so forth. We understand that there has been significant interest in this as has there has been with integrating with third party governance, risk and compliance (GRC) products (for exampleRSA Archer and IBM OpenPages).

ClusterSeven

ClusterSeven, Inc
140 Broadway, 46th Floor
New York, NY 10005, USA

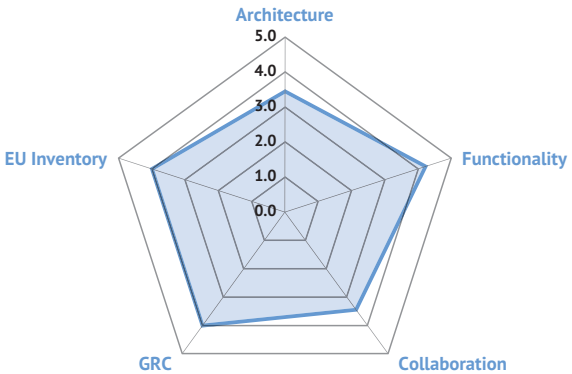
www.clusterseven.com

Strengths

- ClusterSeven is arguably the leading product in the financial services sector, though not elsewhere.
- Third party recognition of ClusterSeven is impressive. As far as we know it is the only vendor to have named references on its web site. Chartis Research ranks ClusterSeven in the top 50 of its RiskTech analysis. ClusterSeven is the only spreadsheet governance vendor in the 100 companies that Chartis lists.
- We have argued for a long time that spreadsheets should be a part of broader governance initiatives, so we are pleased to see the integration with GRC products. Inventory management is also significant.

Threats

- It is encouraging that ClusterSeven is implementing a cloud-based solution for non-financial organisations. It remains to be seen how successful this initiative will be.



EASA Software

EASA is a low-code development platform that enables *"citizen developers"* to create fit-for-purpose web apps. The technology can leverage existing models, thus eliminating a great deal of rework. These models may be financial (typically using spreadsheets) or what might be described as STEM (scientific, technical, engineering and mathematical) models. In the latter case these models will not normally have been built using spreadsheets but will have been constructed using tools such as MATLAB, MathCad or scripting languages such as R or Python. EASA also works with machine learning models built using libraries such as Google's TensorFlow.

The issues that EASA resolves are that a) end users can change inputs and save cases, but they can neither see nor change the underlying logic in the model; b) users can only use the most up-to-date version of the model – it is impossible for them to inadvertently open an older version; and c) the new web interface to the model can be designed to be far more user-friendly than that of the native model (if it even has one). The last point is particularly important for some STEM models that do not even have a user interface, and EASA will enable you to generate this without coding. It can also generate non-spreadsheet looking interfaces for spreadsheet-based models, if you wish. With respect to maintaining the integrity of the model (deploying the current version and users not being able to change it), this is achievable because the user only interacts with the interface and not with the model directly. Because the user only interacts with a model through the interface, he or she cannot make copies of the spreadsheet or model. The timeliness and accuracy of the model stays in the hands of the developer.

Using EASA's low-code approach you can author custom web applications, known as EASAPs, which connect to your models. A major point to note is that the underlying tool or code that defines your application no longer needs to be shared. What is shared is the (web) application that interfaces to that application. This means, firstly, that the end-users do not have to have Excel or MATLAB running on whatever device they are using. This in turn means that EASAPs are easily deployable on mobile devices as well as desktops. It also means that the application interface does not need to be based on the technology underpinning the application: you may be interacting, ultimately, with a spreadsheet, but your interface doesn't have to look like a spreadsheet, unless you want it to. Finally, and perhaps most importantly, this approach means that you can change the logic in your underlying application without having to change the user interface. In the case of a spreadsheet application, for example, this means that you can ensure that users are always employing the latest, most current, version of that spreadsheet.

EASA Software
Office 6, Bullingdon House, 174B Cowley Rd
Oxford, OX4 1UE United Kingdom

www.easasoftware.com

EASA may be deployed on premises or in the Cloud (via AWS). In addition to the standard web app mode of deployment, there is also an Excel Desktop Client option (although this might be less suitable for highly sensitive spreadsheets as the master spreadsheet opens – in a protected fashion – on the end-users' machines). The company – EASA Software – partners, and has joint customers, with ClusterSeven.

Strengths

- As far as we know, EASA is unique in what it offers. Even the mainstream spreadsheet management vendors do not offer anything comparable to EASA, hence its partnership with ClusterSeven.
- We "particularly like the fact that the development of EASAPs is done in a "low-code" environment (the company also refers to this as "hpaPaaS" – a High Productivity Application Platform as a Service.").
- The support for machine learning models is especially interesting, though it is too early to say how widely used this will be.

Threats

- It is always difficult when you are in a market of one. We would like to see EASA partner with other vendors in the spreadsheet management space and to look for technology partners to support both its STEM and machine learning capabilities.

Finsbury Solutions

Finsbury Solutions markets four main products: EUC Enterprise, EXChecker, Spreadsheet Workbench and DaCS (data acquisition control system). The first three can be used in conjunction or separately while DaCS – which is not discussed herein – is designed specifically for the pharmaceutical industry and FDA compliance: a market in which Finsbury is a major player.

Of the three products relevant to this report, EXChecker is a spreadsheet auditing tool that provides error and defect detection and remediation. It can be used to prove to auditors that relevant spreadsheets have been fully validated. Spreadsheet Workbench (which includes EXChecker) offers security and access control, version history and audit capabilities over business-critical spreadsheets. There are facilities to roll-back to previous version of spreadsheets, including macros. There is support for data validation as well as error detection and correction and, for those that use Microsoft SharePoint, there are extensive facilities for integrating with SharePoint.

EUC Enterprise goes beyond Spreadsheet Workbench because it relates not just to spreadsheets but to various other types of end user computing assets such Access databases, models built using various scripting languages and tools, and so on. It will discover these, provides facilities for determining the criticality and risk associated with individual spreadsheets and other EUC assets, and puts those assets under central control within a SQL Server database. Workflow – which is extensible – is built into the product so that you can apply approval processes whenever there is a request to change or update a critical spreadsheet.

An additional product that is significant for some use cases is Spreadsheet e-Distribution. This allows off-line use of spreadsheets, ensuring that the correct version of the spreadsheet is in use and that any updates are automatically synchronised with the central system. This is particularly useful where you have travelling representatives or affiliates.

Finsbury Solutions
545 8th Avenue, Suite 401
New York, NY 10018, USA

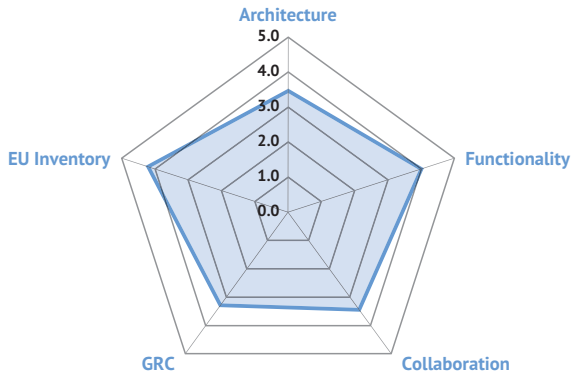
www.finsburysolutions.com

Strengths

- We like the philosophical approach adopted by Finsbury Solutions. Its view is that if you are developing spreadsheet applications then that is a process and spreadsheet management should therefore approach management from a process perspective. From a tangible point of view, this explains the focus on workflow within the company's solutions.
- EUC inventory management (a part of EUC Enterprise) is of growing interest to users. We like the fact that what Finsbury calls Living Inventory, is dynamic – kept up-to-date – rather that static.

Threats

- Several of Finsbury's competitors are partnering with governance, risk and compliance (GRC) vendors and products. This is logical, as spreadsheet management is part of the same spectrum. We would like to see Finsbury establishing similar relationships.



FreeSight Software

FreeSight is an end-user self-service tool for data preparation and analytics, and, for more advanced users, a development tool for automating reporting and other business processes. In the case of the former it provides the ability to ingest, profile, cleanse, transform and combine data that is in multiple different formats and to normalize that data into a consistent format so that it can be used for further work or analysis, either within FreeSight or other third-party tools.

In a spreadsheet environment a good way to explain what FreeSight does is by example. Suppose you run a franchise operation and every month franchisees send you their sales results. These may be in (different) spreadsheet formats, they may be in CSV files, or they may in some other format. What FreeSight does is to capture all the processes involved in combining and cleansing this data so that you have a single, coherent spreadsheet at the end of the process. Thereby automating this process and making it repeatable, as opposed to manual copy and paste procedures that are error-prone and time consuming.

More specifically, FreeSight is a spreadsheet governance (in the sense of data governance: data profiling, cleansing and an audit trail) tool rather than a spreadsheet management tool. Similarly, it is not an error or defect detection tool, but it will detect data formatting errors, data anomalies and so on.

Going beyond this, FreeSight supports standard Excel formulae but has an extended catalogue of capabilities with over 100 additional functions for things like date and time, text manipulation and so on. The product has auto-charting capabilities that are much easier to use than pivot tables and which makes this sort of capability accessible to business analysts who are not Excel experts. Another notable feature that is lacking in Excel but present in FreeSight is the ability to analyse across different versions of the same spreadsheet (for example, where you have each monthly set of data stored under a different tab).

Users work in FreeSight via a visual canvas where all data manipulations are performed, resulting in a process workflow that is live (each node in the workflow provides direct access to underlying data and operations) as opposed to just a picture. This supports both governance and auditing, as well as the ability to restore data to a former state. It is a significant differentiation compared to some other tools in that with FreeSight you can drill down from nodes in the process flow (other products are often static), and FreeSight also supports the ability to reverse any operation at any time.

FreeSight
5700 Yonge Street, Suite 200, Toronto
Ontario, Canada M2M 4K2

www.freesightweb.com

Strengths

- There are other products that can automate spreadsheet processes. However, FreeSight is the only company that we know of that just does this and doesn't provide a lot of spreadsheet or file management capabilities. Of course, if you need those extra functions then fine. But if you don't then FreeSight is likely to provide a much more cost-effective solution.
- It is notable that FreeSight is a self-service solution designed to be deployed by end users. This is not usually the case with spreadsheet management products.

Threats

- FreeSight is not, primarily, targeted at the spreadsheet market. The company is more focused on data preparation. For this reason, the company is less well-known in the spreadsheet space.

Infotron

Infotron PerfectXL is a tool for detecting and remediating errors in and across spreadsheets. It has been developed in conjunction with the Spreadsheet Lab at the University of Delft in the Netherlands. While there are plenty of other tools for detecting and correcting spreadsheet errors, PerfectXL has some unique features, which is why it is described here.

The first thing that Infotron does that is different is illustrated in ***Figure 1***. The company uses serialised graph structures – which are embedded so that the user does not see them – to support the visualisation of relationships both within and across spreadsheets and the data source they feed to and from: in this case showing hidden and very hidden sheets both in the current workbook and in other workbooks. You can click on any node in the graph and drill-down to lower level details.

As far as errors are concerned, Infotron, working with the University of Delft, has identified 25 categories of spreadsheet risk. Of these, PerfectXL currently covers 21 types (with more than 50 actual risks) and the company intends not only to extend its solution to cover all 25, but is also engaged in research to discover any additional risk types that are worthy of categorisation. PerfectXL also has facilities for scanning formulae and constants and it applies similar risk assessments as for errors. These risk assessments make use of what are known as "*code smells*". This will be a familiar concept to developers and is akin to the saying *"no smoke without fire"*: if you detect something that doesn't seem quite right in your code, or your spreadsheet, then that is probably a sign that there is a deeper underlying problem that needs to be resolved. In other words, this is applying software engineering concepts to spreadsheets. In practice, the way that the detection and investigation of code smells are supported in PerfectXL is that spreadsheets are loaded into and analysed and that leads to the identification of defects that you might otherwise miss.

INFOTRON

Infotron
Impact Hub Amsterdam, Linnaeusstraat 2C
1092 CK Amsterdam, Netherlands

www.infotron.nl

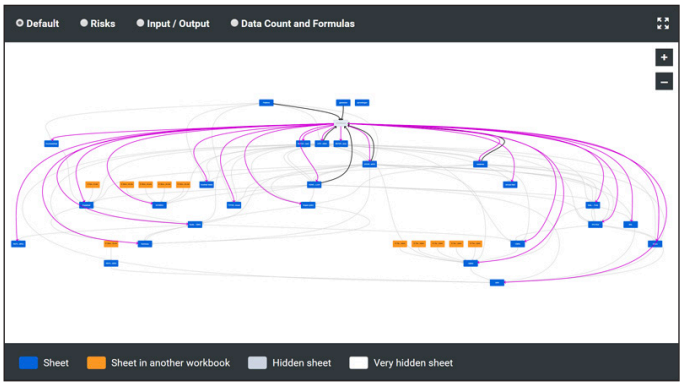
Strengths

- Thanks to its underlying graph storage, Infotron has the best visualisation capabilities of any product in this space. This is particularly important when you have complex environments with many interacting worksheets, where links can otherwise be very difficult to understand.
- We like the use of code smells as a technique that allows you to discover errors and defects that go beyond those that are well-known and easy to find.
- The collaboration with the University of Delft gives academic credibility to the approach taken by Infotron.

Threats

- Infotron is a small company, was formed relatively recently and is not very well known. Nevertheless, it has major clients such as PriceWaterhouseCoopers and Shell, which suggests that it must be doing something right.

Figure 1



PHILIP HOWARD
Research Director/Information Management

Philip started in the computer industry way back in 1973 and has variously worked as a systems analyst, programmer and salesperson, as well as in marketing and product management, for a variety of companies including GEC Marconi, GPT, Philips Data Systems, Raytheon and NCR.

After a quarter of a century of not being his own boss Philip set up his own company in 1992 and his first client was Bloor Research (then ButlerBloor), with Philip working for the company as an associate analyst. His relationship with Bloor Research has continued since that time and he is now Research Director, focused on Information Management.

Information management includes anything that refers to the management, movement, governance and storage of data, as well as access to and analysis of that data. It involves diverse technologies that include (but are not limited to) databases and data warehousing, data integration, data quality, master data management, data governance, data migration, metadata management, and data preparation and analytics.

In addition to the numerous reports Philip has written on behalf of Bloor Research, Philip also contributes regularly to ***IT-Director.com*** and ***IT-Analysis.com*** and was previously editor of both ***Application Development News*** and ***Operating System News*** on behalf of Cambridge Market Intelligence (CMI). He has also contributed to various magazines and written a number of reports published by companies such as CMI and The Financial Times. Philip speaks regularly at conferences and other events throughout Europe and North America.

Away from work, Philip's primary leisure activities are canal boats, skiing, playing Bridge (at which he is a Life Master), and dining out.

Bloor overview

Technology is enabling rapid business evolution. The opportunities are immense but if you do not adapt then you will not survive. So in the age of Mutable business Evolution is Essential to your success.

We'll show you the future and help you deliver it.

Bloor brings fresh technological thinking to help you navigate complex business situations, converting challenges into new opportunities for real growth, profitability and impact.

We provide actionable strategic insight through our innovative independent technology research, advisory and consulting services. We assist companies throughout their transformation journeys to stay relevant, bringing fresh thinking to complex business situations and turning challenges into new opportunities for real growth and profitability.

For over 25 years, Bloor has assisted companies to intelligently evolve: by embracing technology to adjust their strategies and achieve the best possible outcomes. At Bloor, we will help you challenge assumptions to consistently improve and succeed.

Copyright and disclaimer

Bloor Research International Ltd
20–22 Wenlock Road
LONDON N1 7GU
United Kingdom

Tel: **+44 (0)20 7043 9750**
Web: **www.Bloor.eu**
Email: **info@Bloor.eu**