Meta5 Position Paper

Financial Services

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1. *CHANGE CONTROL LOG*

#	Date	Name	Description
0.0.01	7/01/2014	Pat Frohlich	Initial internal version for review

2.   *AUDIENCE*

The intended audiences for the Meta5 Position Paper for Financial Services are:

- Power Data Analysts that work in the Financial Services Industries.
- The Business Management of Financial Services Industries, especially Chief Financial Officers and Chief Marketing Officers.
- The Data Warehousing and Business Intelligence teams in Financial Services Industries.

The intended audience is very much expected to have detailed knowledge and experience in the use of End user Analysis tools that are the direct competitors of Meta5.

This expectation of detailed knowledge is required so that the differentiators that the strengths of Meta5 can be understood by the reader. Meta5 makes what is impossible, or very difficult to do with other tools, routine.

However, to understand this level of differentiation it becomes necessary to understand the limitations of the competitive tools. It is necessary to understand what is "very difficult" or "impossible" with other tools so as to understand how and why Meta5 makes these tasks "routine".

3. PURPOSE OF THIS DOCUMENT

The purposes of this document are:

1. Introduce the Meta5 System to your Financial Services Company.

2. Explain the major differentiators of the Meta5 System so as to provide your company with a clear choice to further investigate the Meta5 System to gain the advantages offered by the System.

3. Provide brief details of the suite of icons available in the product.

4. Provide indicative pricing so your company can understand the relative costs of the Meta5 System.

This document was originally developed as a response to questions put to us by one of our prospective Financial Services clients. Since this client is quite representative of other financial services companies we have chosen to update the document to be a more general and generic document and to place it in the public domain.

We did this because other financial services companies will have the same questions and same concerns as the prospective client we prepared this paper for. By making similar information available to other financial services companies you can understand a little more about the Meta5 system and why it is a good investment for your company to make.

4. META5 INTRODUCTION

The Meta5 System is a unique system. There is nothing else like it in the marketplace.

That means it does take a little explaining to people who are new to it. The many tens of thousands of people who have used Meta5 over the years do not need the Meta5 difference explained to them. They "get it". However people who are new to the Meta5 system often have difficulty understanding the Meta5 system because it is so different.

The best way to think of the Meta5 system is as "Data Analysis Desktop". The Data Analysis Desktop is a place where you can bring all the data you need to perform even the most complex of analysis work. All the data you need is right at your fingertips on the desktop. The Meta5 System has a host of tools to bring data in to the Data Analysis Desktop, including query tools for databases so that the data warehouse is fully accessible to the Data Analysis Desktop.

The desktop itself actually sits on the Meta5 File Server. The Meta5 system is the ultimate "thin client" in that all the processing happens on the Meta5 File Server with minimal processing occurring on the users actual desktop, laptop, or tablet device. This makes the power of the Meta5 File Server available to each user via the projected "desktop".

The Data Analysis Desktop provides access to more than 120 highly integrated tools that the Power Data Analyst can use to perform all manner of sophisticated and complex data analysis. There is a tool to meet each need.

A unique feature of the Meta5 system is that the underlying data storage mechanism for all these tools is the same, therefore, communication between the tools is fast and efficient. There is no "data translation process" that needs to take place when data is moved from one tool to the next as is the case with so many other vendor tools.

Naturally we can provide demonstrations and documentation of the Meta5 system and the suite of tools. But at this stage, as an introduction, it is sufficient to say that the Meta 5 system is best understood to be a high end, sophisticated, "Data Analysis Desktop" where a Power Data Analyst can perform the most complex and demanding of sophisticated Data Analysis without the need to talk to the IT Department to get "IT support" during such working processes.

This includes and is not limited to the ability of the Power Data Analyst to retrieve data that is not in the data warehouse from whatever source it might come from and bring it in to the Data Analysis Desktop.

Whether that data be in Excel spreadsheets, delimited files, on web pages, in SAS or other non standard databases, it is all easily available at the click of a mouse button or even gesture of a finger.

The Power Data Analyst will never again have to go to the IT department for "IT Support" to perform even the most complex data analysis, even if new data is required to do so.

The Meta5 system unleashes the creativity and imagination of your "best and brightest" "Power Data Analysts" and makes them approximately five times more productive than when using the tools of the other leading vendors.

As important as it is to explain what Meta5 is, it is just as important to explain what it is not so that you do not try and compare oranges to apples. When comparing Meta5 to other tools to determine "where does Meta5 fit into the stack of tools out there today" some of the following aspects of Meta5 are important to keep in mind.

The Meta5 system has never been, and has never meant to be, the "end user query and reporting tool for the masses".

Tools like Cognos, Business Objects, MicroStrategy, Microsoft Report Services, Birt, Spotfire, Webfocus and others all try and be "a comprehensive business intelligence environment" that their vendors will claim "is the only tool you will ever need". Their vendors claim that their tool will "comprehensively provide the best of breed Business Intelligence Functionality to all the staff at your company."

We are sure that you have heard all the sales pitches from all the vendors. Most financial services companies already have a very wide selection of tools from the leading vendors. The very fact that most financial services companies have invested in a wide selection of tools from a wide selection of vendors is testament to the fact that their claim that their product will "comprehensively provide the best of breed Business Intelligence Functionality to all the staff at your company" is not a promise they can live up to.

No one can meet these needs comprehensively because the needs of business users in the BI area have evolved rapidly over the last 20 years. Your needs continue to evolve. This is the very reason why there are still so many niche tools on the marketplace. The "mega vendors" have not yet built out their tool sets to be "completely comprehensive" and it is not likely that this will happen any time soon.

We at Meta5 are different. We will openly state that we are not interested in rollout out thousands of desktops of Meta5 to "the masses" because "the masses" do not need the high end functionality of Meta5. Where we roll reports out to large numbers of users we deliver via the Microsoft Office suite because "the masses" already use Microsoft Office. We deliver those Microsoft Office Reports through a familiar portal interface that has strong similarities to the Microsoft Report Services portal only with features that we believe are superior.

The Meta5 system is aimed, very sharply, at what we call the "Power Data Analyst". Inside any large financial services organization the number of these people is relatively small compared to "the masses". Because of this ratio, the vast majority of vendors do not invest much development money in to products that are specifically tailored to the work practices of the Power Data Analyst. Yet the ideas that come from this small group of people can be transformational in scope and nature. Some of the best and brightest people in the company are often found performing work that we would call "Power Data Analyst" work.

So, we do not provide the tools that "the masses" use for their daily reporting needs. That is the job of Microsoft. That is the job of other companies.

We provide the tools the Power Data Analyst needs to do the most sophisticated and complicated work in the company. Indeed, we like to say *"Meta5 makes the impossible routine".* What your Power Data Analysts would call "impossible" today, is where we would recommend you start using Meta5 should you choose to "try and buy" the Meta5 system.

5. THE META5 ARCHITECTURE

With the increase in power of PCs over the last 20 years, Meta5 can be simply deployed using one Virtual Machine carrying all Meta5 Services. By placing all services on to one single Windows Server on a VM, the maintenance and configuration of the Meta5 System becomes faster and simpler.

All the services still start as services and they still communicate via the Ethernet connections between the services. But there are not separate machines to maintain and manage unless you choose to do so.

In very large deployments clients might like to separate out processing of the services to separate physical machines. The diagram below represents the machines that could be implemented in a large install.

- Primary File Services
- Auxiliary File Services
- Integration Services
- Capsule Scheduling Services
- Open Data Access Services
- Web Browser Connections Services
- Web Portal Services
- Database Gateway Services
- Meta5 User/Developer Desktops

All these services can be placed on to separate machines. You can have multiples of some of these services such as Auxiliary File Services. The detailed functions of each of these services can be provided by the relevant manuals that describe them in details should you wish to receive these manuals.

All the services run on the windows platforms. You may run them on Windows 7 however we would recommend that all server services are implemented on Windows Server 2008 R2 or above.

The Meta5 system is extremely scalable. Such large organizations as Coca Cola and Proctor and Gamble have had global Meta5 networks that were very large.

IBM is still one of the largest users of Meta5 and have installations with in excess of 1,000 desktops.

IBM Runs more than 20,000 reports per month using the Meta5 system.

5.1.1.1. The meta5 difference

The Meta5 system is very different to the vast majority of the main stream competitors in the marketplace. In this section we will document the main differentiators. We have created some demonstration videos and placed them on to our You Tube Channel that specifically address the differentiators that are mentioned in this section.

Without going in to great depth and great detail. These are the features that make the Meta5 system worth investing some time and effort for you to evaluate.

Our "try and buy" offer is intended to put a fully featured Meta5 system inside your firewall so your Power Data Analysts can access your existing data warehouses and see for themselves the Meta5 difference. It is very much a case of *"seeing is believing"*. Once people use Meta5, they will begin to understand the power of the Meta5 system.

5.2.   The End User Creates Analytical Applications and Reports

In the Gartner paper:
Magic Quadrant for Business Intelligence and Analytics Platforms
5 February 2013 ID:G00239854
Analyst(s): Kurt Schlegel, Rita L. Sallam, Daniel Yuen, Joao Tapadinhas

The following comment is made about IBM and the issues around creating new reports in Cognos 10.x.

"Also, IBM references cited an average of 6.45 days to create a report, compared with the market average of 3.95 days, again ranking IBM in the bottom quartile. Readers should note that this statistic is a blended average of the time required to develop simple, moderately complex and complex reports. IBM has made usability a priority investment area, and this is reflected in the higher survey ratings for Cognos BI 10 versus Cognos 8 BI."

For many years vendors have sold the idea "The end user can build their own reports". The statement above shows that this has rarely happened in large organizations. In the end the new reports are developed by "IT people". And it takes nearly 4 days on average to get a new report written! The reason that it takes 4 days to write a new report on average is exactly because the end user has to communicate what is needed to IT and that cycle needs to be completed.

This fact that it is not the end users who are building the reports, which is now inescapable, shows just how badly most of the vendors have failed to make the promise come true that "the end user can build their own reports".

We absolutely concede that some organizations have end users who are skilled enough to use these vendor tools to create their own reports. However, it is a minority, and we suspect it is a fairly small minority as well.

The Meta5 system was the first system that allowed the business user to create reports and to create their own analytical applications.

The single greatest benefit, and differentiator, of the Meta5 system, is that the end user, the Power Data Analyst, creates his/her own Analytical Applications. The vast array of benefits Meta5 brings to an organization is based on the fact that the end user, the Power Data Analyst, can build his/her own analytical applications and reports.

The reasons that this is such a great benefit, and differentiator, are as follows:

1. The Power Data Analyst does not need to communicate what he/she wants or needs to a third party that has far less understanding about the business that is being analysed.

    By not needing to communicate that message, the Power Data Analyst immediately saves his/her time as well as avoiding all the misunderstandings that are associated with such communications.

    We still hear the complaint that "business and IT speak different languages" and this has been exacerbated by the increase in outsourcing of IT to non-industry specialist staff.

2. Because the Power Data Analyst does not need to communicate what it is he/she needs and can create the analysis for him/her self there is far less reluctance to "try something new" or to "try something with a high possibility of failure".

    The Power Data Analyst is far more inclined to "follow a hunch" if he/she does not need to communicate that "hunch" to anyone else, especially to an IT person, who might interpret such comments as the business person being less than completely well informed about their business.

3. Almost inevitably, in the "discovery phase" of performing new analysis work the answer to the question at hand prompts more questions until the subject area at hand is thoroughly analysed.

    With Meta5 the Power Data Analyst goes through this repetitive process at his/her own speed without the need to communicate to anyone else what he/she is thinking about the results coming to hand.

    In many cases, when a Power Data Analyst "follows a hunch" the end result will be that the "hunch" turns out to be false and there is no value created from the process. However, Meta5 users report that at a rate of about 1 in 10 times the "hunch" turns out to be an insight that is of incredibly large value.

    The single most important feature of the Meta5 system is that it unleashes the creative power of the "best and brightest" people in the company to "follow a hunch" that might just lead to business decisions that return incredibly large amounts of money compared to the investment required to get the return.

    This has been a hallmark of the use of Meta5 over the years. The "best and brightest" being able to use the full span of their imagination and knowledge of the business to come up with new ideas that can then be funded and implemented.

    In this sense Meta5 has been a tool that has been used to "experiment" and to "create new understandings" that have transformed the business processes of many a company.

More than anything else, removing IT from the cycle of "writing new reports" or "developing analytical applications" delivers the lions share of the differentiated benefits of Meta5 over and above any other tools.

When the people who best understand their business are the people who can build the analytical applications, magic happens. Magic that can not be created any other way.

5.3. Time Required to Create a New Report

Again referencing the above report we would draw your attention to this phrase:

"*"Also, IBM references cited an average of 6.45 days to create a report, compared with the market average of 3.95 days*".

Garners clients report that, on average, it takes 4 days to create a report via the leading BI tools. The 6.5 days reported for Cognos 10.x does not surprise us at all.

By contrast, in Meta5, a Power Data Analyst should expect to be able to create a new report in a few hours. Our experience shows that Meta5 is about five times faster in creating the same report as other tools. In Meta5 the report is created by the Power Data Analyst and not an "IT person".

It is almost unheard of for a Power Data Analyst to spend more than a day to build even the most complex of individual reports using Meta5. A day of report development time in Meta5 is a long time.

We even had a case where it took a major insurance company 4 weeks to prepare their quarterly competitive positioning briefing book for the senior management team. The briefing book, as usual, was developed in Excel and required data from many different sources, including the industry regulator.

The quarterly exercise in "cutting and pasting" was prone to error and on occasion those errors had made it into the competitive positioning briefing book before they were noticed.

This entire briefing book, including the process to re-run it on a quarterly basis, was redeveloped in Meta5 in a day. This is the sort of power that Meta5 has when creating reports, especially briefing books, that need to be run on a regular basis.

When you use Meta5 in the "Try and Buy" mode we would recommend your staff attempt to replicate some existing complex reports where the amount of time taken to create the report is known and understood. We expect that even relatively novice users of Meta5 will be able to re-create such reports significantly faster than the report was created in any other tools.

One of the best places to start using Meta5 is the area of "Senior Management Team Briefing Books". These briefing books are almost invariably highly Excel centric. They invariably have data from many different sources including external sources that are not in the data warehouse. They are invariably re-run on a periodic basis, usually monthly and quarterly. They invariably cause a lot of heartache and grief to re-produce as quickly as possible on each cycle.

If you have such "Senior Management Team Briefing Books" in production today we would suggest that they are a perfect place to start to replicate some of their functionality to determine if the value of Meta5 justifies an investment by your company in the Meta5 system.

5.4.   The Meta5 Vast Array of Integrated Tools

There are two main features of the Meta5 system that support the end user in creating their own analytical applications and reports.

1. The vast array of integrated tools available to the end user.
2. The Meta5 Capsule and the Visual Programming Environment.

In this section we will explain the vast array of integrated tools available to the end user and why this is so different to the other vendors tools.

Meta5 was developed to contain all the tools needed for a Power Data Analyst to perform complex and sophisticated analysis work. This lead to the creation of over 120 tools which are presented to the user as "configurable icons".

One of the most important aspects of these tools is that they all accept data in the same format. The underlying data storage mechanism for all the tools is the same and therefore exchange of data between the tools is extremely fast and efficient.

By stark contrast, the vast majority of competitive vendors have developed their tool suites by acquisition. The integration of their tools, the ability of their tools to exchange information, is generally much slower and more complex as data needs to be translated from the internal format one tool understands to the internal format of the next tool so that it can operate on the same data.

Consider for example the simplest of examples between moving data from Excel to Word. Even though Excel and Word are the most popular products in their class in the world, they still store their underlying data in intrinsically different formats. To make Excel charts available in Word dynamically requires data exchange, meaning data translation, between the spreadsheet and the word document.

The Meta5 systems' consistent underlying data storage implementation then allowed the creation of an endless suite of tools on top of that data storage implementation.

The full table of tools that are currently available in the Meta5 system are as follows:

ICON NAME	ICON FUNCTION
Accessing Data	
Query	A full function, flexible, query tool for access to any ODBC data source
Reporter	A full function, flexible, reporting tool that presents data from any ODBC supported relatational database.
SQL Entry	A tool that allows the user to write native SQL and to send it to any ODBC supported relational database to retrieve the rows that meet the criterial of the query also includes advanced SQL programming functionality
iWeb	Allow access to data from web pages.
PC Directory	Allow access to files on the client computer addressed by drive letter or path name
iWeb	Allow access to data from web pages.
iDirList	An integrator icon that allows you to list the contents of a directory or subdirectory on your computer or on any drive accessible by your computer, allowing the specification of file names or extensions.
Browser	Allows the browsing of data directly from a database with drill capability at the client
Forms Design	Create easy to use, intuitive data entry forms for applications.
Xtract	A tool that extracts data from Excel spreadsheets.
PC Application Icon	A tool that interfaces with any executable program on the PC to exchange data bidirectionally
Analyzing	

Browser	Allows the browsing of data directly from a database with drill capability at the client.
Calculator	A simple calculator similar to the windows calculator.
Excel Spreadsheet	An Icon representing MS Excel in Capsule Applications
Layout	A sophisticated report formatting tool for the most complex of reports.
Reporter	A full function, flexible, reporting tool that presents data from any ODBC supported relational database.
Spreadsheet	A full function spreadsheet tool that can be used inside capsules rather than invoking Excel.
Word Document	An Icon representing MS Word in Capsule Applications
Capsule Control	
BASIC	A version of the basic scripting language to control the execution of capsules if needed.
Capsule Service	The Capsule Service supports the scheduling of "capsules" so that they run in a batch mode not using the users desktop. Capsules can be submitted to the batch queue based on a wide variety of conditions.
Capsule Run Log	A tool that collects the processing messages from capsules so that administrators can review the log for any problems.
Copy Icon	A tool that is used to copy an icon from on capsule to a higher level in the Capsule. Usually used to place results into a results folder.
Forms Design	Create easy to use, intuitive data entry forms for applications.
In	An icon that allows a data stream to be sent into a Capsule.
Out	An icon that allows a data stream to be sent out of a Capsule.
Reference Capsule	An capsule that can be put in place of another capsule referring to the second capsule.
Desktop	
Dictionary	A simple dictionary that can be added to for spell checking.
Discard	A folder where deleted icons are placed before being permanently deleted.
Saved Color Settings	An icon that allows users to save the color settings of their desktops to reset those colour settings if changed.
Screen Capture	An icon that allows the capture of windows on the desktop or the entire desktop. Primarily used for documentation.
Distribution	
Advanced Internet Envelope	Allows a user to imbed custom HTML in an email as well as adding additional email functionality
Basic Internet Envelope	An envelope that can be placed into normal smtp mail boxes.
Email Outbox	An icon that represents the email outbox for sending email using the internal meta5 mail system.
Meta5 Envelope	An envelope that can be placed into the meta5 mail tray.
Meta5 Mail Tray	An icon that represents the email outbox for sending email using the internal meta5 mail system.
PC Application	An icon that can invoke any PC application that is visible to the desktop via a hard drive letter.
Windows Application Icon	An generic Icon that is used to represent all different types of windows file extensions used primarily for pdf, gif, jpeg files
PC Directory	An icon that can allow access to any PC directory that is visible to the desktop via a hard drive letter.
Organizing	
Capsule	The fundamental programming icon of Meta5. It contains other icons and connects them graphically so that the icons can execute performing their functions and passing the processed data to the next icon.

File Drawer	The file drawer acts very much like a filing cabinet in an office environment. It offers storage of all sorts of other icons and the sharing of icons between users via shared file drawers. A path to shared files
Folder	The folder acts just like the office folder in that other icons such as documents, spreadsheets, plots and capsules are placed into the folder to group them together. A path to local files
PC Integration Icons	
iExcel	An Icon that allows programmatic interaction with the MS Excel application to prepare complex Excel workbooks.
iWord	An Icon that allows programmatic interaction with the MS Word application to prepare complex word documents.
iWeb	Allow access to data from web pages.
iDirList	An integrator icon that allows you to list the contents of a directory or subdirectory on your computer or on any drive accessible by your computer, allowing the specification of file names or extensions.
PC Directory	Allow access to files on the client computer addressed by drive letter or path name
Windows Application Icon	A generic Icon that is used to represent all different types of windows file extensions used primarily for pdf, gif, jpeg files
PC.BIN	A generic icon that is used to represent all different types of data files
PC.TXT	An icon that is used to represent large text files for importing and exporting
PC.DIF	An Icon used for storing legacy data in DIF format
PC.RFT	An Icon used for storing legacy data in RFT format
PC.RTF	An Icon used for storing legacy data in RTF format
PC.WK1	An Icon used for storing legacy data in WK1 format
PC.Graphics	An Icon used to store a variety of PC graphic files types.
Presentation	
Excel Spreadsheet	An Icon representing MS Excel in Capsule Applications
iExcel	An Icon that allows programmatic interaction with the MS Excel application to prepare complex Excel workbooks.
Format	A tool that allows the preparation of data into complex formats to send on to a reporting tool.
Layout	A sophisticated report formatting tool for the most complex of reports.
Plot	An icon that supports a wife variety of chart types for graphical presentation of data.
Screen Capture	An icon that allows the capture of windows on the desktop or the entire desktop. Primarily used for documentation.
Spreadsheet	A full function spreadsheet tool that can be used inside capsules rather than invoking Excel.
Text	An editor similar to MS Word. It can support complex formatting and insertion of variables and plots to produce formatted reports.
Word Document	An Icon representing MS Word in Capsule Applications
Plot	A plotting tool used in Meta5 applications
iWord	An Icon that allows programmatic interaction with the MS Word application to prepare complex word documents.
Wordtool	A command line and scripting interface to MS Word
Xlaunch	A command line and scripting interface to MS Excel
Services	
Capsule Service	The Capsule Service supports the scheduling of "capsules" so that they run in a batch mode not using the users desktop. Capsules can be submitted to the batch queue based on a wide variety

	of conditions.
DBA	The DBA users this tool to manage and maintain databases as well as the Meta5 Data Dictionary that describes databases.
Printer	The printer icon connects to a system connected printer to enable printing of documents.
Reference Capsule	An capsule that can be put in place of another capsule referring to the second capsule.

Administration	
Capsule Service	The Capsule Service supports the scheduling of "capsules" so that they run in a batch mode not using the users desktop. Capsules can be submitted to the batch queue based on a wide variety of conditions.
DBA Tool	The DBA users this tool to manage and maintain databases as well as the Meta5 Data Dictionary Meta data that describes databases.
File Drawer	The file drawer acts very much like a filing cabinet in an office environment. It offers storage of all sorts of other icons and the sharing of icons between users via shared file drawers. A path to shared files
File Service Console	A console application used for System Administration and System Operator functions
SA Tool	The System Administration Tool is used to allocate and maintain resources across the Meta5 System. It controls the access of users to the tools they are licensed to use.
Set Quota	The Set Quota tool sets maximum quotas for items such as desktops.
SetDBAccess	The SetDBAccess transformer searches a container icon for all icons that are used to access database gateways and changes the access options according to your specifications.
Update Quota	The Update Quota tool allows the variation of quotas for items such as desktops.

Basic Transformers	
Append	Combines up to 10 tables of data into one table.
Clean	Removes columns or rows that contain blanks, N/As, zeros, or other null values.
Clear Contents	Clears the contents of a specified container.
Compress	Combines or deletes two or more columns or rows of data.
Copy Icon	Copies an icon to a folder.
Join	Joins the data from two tables. (Inner, Outer, Left, Right, Lnot, Rnot, Xor operations)
Label	Creates mailing labels for form letters.
Merge	Combines text with incoming data to produce a report or form letters.
MultiJoin	Joins the data from up to five tables.
Pivot	Designs a report by rearranging the columns and rows of data.
Select	Deletes or reorders columns of data.
Sort	Rearranges data in alphabetic, numeric, or chronological order.

Advanced Transformers	
Append Message	Sends text from a capsule application to the desktop message area.
Concatenate	Concatenates input by row from as many as five input regions into one output region.
Conditional Clean	Selects data from input based on whether the data meets or fails user defined criteria.
Data Format	Formats input data into either SQL statements for loading the data into a database as text, or into text that can be sent to environments other than Meta5.
Date Format	Reformats date information into any of 10 supported date formats.

Error Log 1 and Error Log 2	Can send text messages from a capsule application to an output region, to the desktop's messages area, or to the desktop's Important Message window.
Function	Performs calculations on data sets larger than those supported by the Spreadsheet tool by applying data-transformation expressions (mathematical, spreadsheet functions, data formatting, or date conversions) to each row of data it receives.
Header	Reads text from a Query tool icon, SQL Entry icon, or spreadsheet and formats it into column headings suitable for a report.
Message	Sends text messages from a capsule application to the desktop's message area or to the Important Message Window.
Multiple Select	Sends specified data columns from one input region to as many as 10 output regions.
Multiple Split	Sends specified data rows from one input region to as many as 10 output regions.
Page Break	Formats spreadsheet data into a paginated document that is ready for printing.
Period Table	Constructs date and period tables for use in databases or as input to the Seasonality and Forecast transformers (in the Regression and Time Series group).
Post Message	Sends text from a capsule application to the desktop's messages area.
Random Number	Generates random number tables.
Replace	Selectively substitutes values in data from a Query or Spreadsheet icon.
Row Clean	Selectively removes rows of data provided by a spreadsheet, query, or other row-oriented data source, based on flexible cleaning rules.
Row Select	Selects data rows based on their location in a data set provided by a Spreadsheet, Query, or SQL Entry icon.
Select Unique	Allows you to De-Dup data, group, sort and aggregate data
Split Header	Sends specified data rows of an input region to one of two output regions.
Substitute	Finds and replaces data from a spreadsheet or other row-oriented data source.
Find Replace	Finds data within a text string in a table of data and replaces it with supplied replacement value
Subtotal	Creates subtotals and grand totals on columns of data.
Switch and Text	Switch Reads data from a Spreadsheet, Query, or SQL Entry icon and uses if then-else logic to select one of two input regions to receive the output.
Text to Spreadsheet	Converts information in a Text icon into Spreadsheet format.
Transpose	Interchanges rows and columns in a table of data.
Word Count	Computes checksums and counts characters, words, and paragraphs in a text document.
Write SQL	Translates row- and column-oriented data into SQL statements that can load the daa into a database (within a capsule application).
Significance and Sample Testing	
ANOVA	Displays differences in distributions of a variable across several groups of data.
ChiSquare	Displays associations between pairs of variables and differences in distributions between an observed sample and a theoretical sample.
CrossTab	Constructs contingency tables that you can use to study distributions of cross-classified data.
IPMean	Performs the t-test to measure differences in the distribution of a variable between two paired or independent samples.
Kruskal	Performs the Kruskal-Wallis nonparametric test to determine whether different samples have different distributions of a variable.
Ktest	Performs the Kolmogorov-Smirnov nonparametric test to determine whether an observed distribution differs from an expected distribution or whether the distribution of a variable differs between two groups.

NPCorrelation	Computes Spearman Rank and Kendall's Tau nonparametric correlation coefficients to summarize the relationships among two or more variables.
NPIndependent	Performs the Mann-Whitney and Wilcoxon Rank-Sum nonparametric tests to determine whether two independent samples have different distributions of a variable.
NPPaired	Performs the Wilcoxon Signed Rank and Sign nonparametric tests to determine whether two independent samples have different distributions of a variable.
Regression and Time Series Analysis	
AutoCorrelation	Helps you analyze the relationship between values in a time series and previous values (lags) of the series.
AutoRegression	Helps you construct models that estimate future values of a time series based on previous values.
Correlation	Measures linear relationships among columns of data or variables.
Elementary	Generates summary statistics about variable distributions.
Forecast	Helps you predict values of a series based on historical information.
Moving	Computes moving averages and rolling sums to smooth and summarize time series information.
Regression	Helps you create a mathematical model or equation for a set of data, so you can analyze the relationships within that model or equation and estimate values of a variable based on one or more predictor variables.
Seasonality	Measures the seasonal component of a time series and optionally removes its effect.

As can be seen the array of tools that are available are extensive. They are all at the fingertips of the Power Data Analyst and they all function in very similar manners. They are easy and fast to learn how to use.

5.5. The Meta5 Capsule and the Visual Programming Environment

There are two main features of the Meta5 system that supports the end user in creating their own analytical applications and reports.

1. The vast array of integrated tools available to the end user.
2. The Meta5 Capsule and the Visual Programming Environment.

In this section we will briefly describe the Meta5 Capsule and the Visual Programming Environment.

If you, the reader, are familiar with the IBM DataStage product you will be familiar with the Meta5 Capsule and the Visual Programming Environment because the DataStage Product replicated many of the features of the Meta5 Capsule into it's development pallet. What you will see now will be familiar to you.

However, there are many features of the Meta5 Capsule that the DataStage product did not replicate. And these are very important features.

So let us present to you the simplest of capsules and explain to you what this image means.
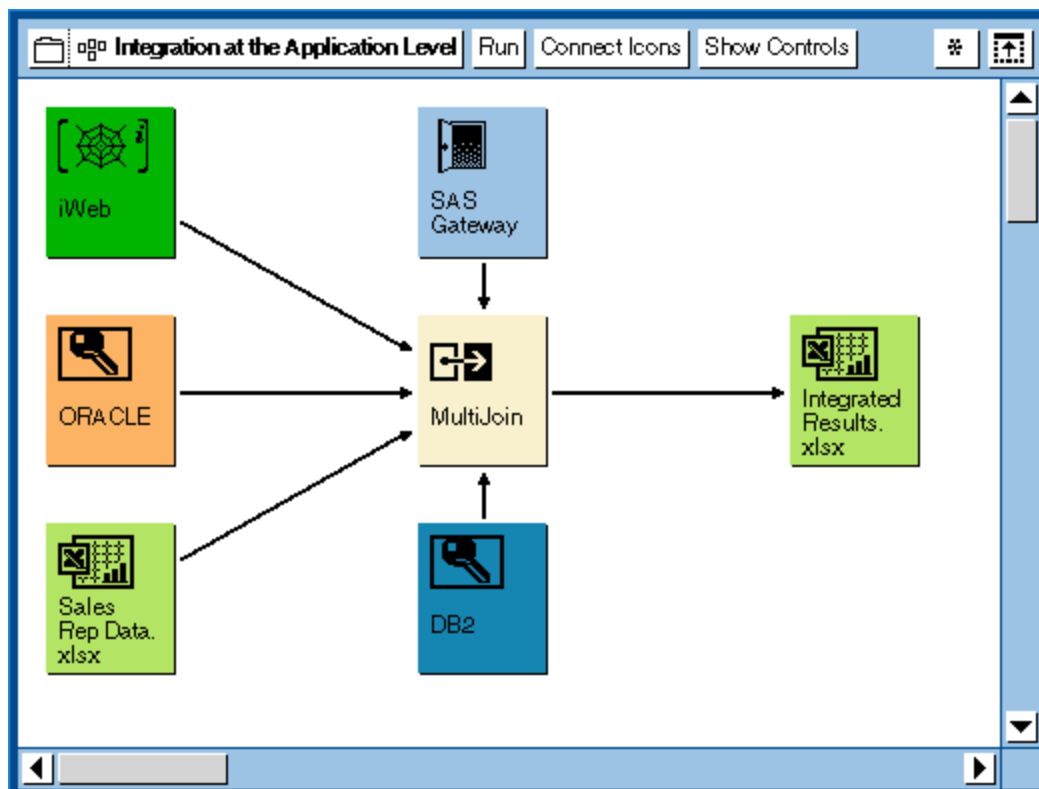
The image above contains 7 icons representing 6 different tools. The Excel tool is used twice in the diagram. As is indicated in the diagram data is being extracted from 5 different sources, it is being joined, and it is being sent to an Excel spreadsheet as a consolidated and integrated target data receiver.

The data is coming from these 5 different sources.
1. SAS
2. A web page
3. Oracle
4. DB2
5. An Excel spreadsheet.

You can see that the idea of this capsule is to take data from these 5 different places and to pass the data through the icon that is called the "multi-join" icon. This icon can take up to 5 data source streams and join them together to produce a single stream of data as an output.

The multi-join icon can perform inner, outer, left, right joins just like any relational database can do. It can emit default values for null substitution as well as many more functions. The multi-join is one of the most important and most used tools in the Meta5 suite of more than 120 tools.

For those of you who are familiar with products like DataStage, Informatica, SPSS and others you will be familiar with the idea of joining icons together with arrows or lines to indicate data flows.

In the Meta5 system we can place parameters on the arrows to alter the behaviour of the arrow as it transmits data from one icon to another.

This capsule provides an example of some of the most important ideas in the Meta5 system.

1. Access to almost any data in an organization.

    The Meta5 system can read data from almost any data source known to man. It can translate it into the internal data storage format of the Meta5 system so that the data can be operated on by the more than 120 tools of the Meta5 system.

    As you can see from the diagram we have shown data coming from 5 different sources. If we wanted to bring data from 10 different sources we would simply need two more "multi-joins" to collect the data streams and forward them in the capsule.

    Where the data might be in some proprietary binary format such as in the switch records for telephone companies, we have available C++ template programs to decode such data so that it can be translated in to some format that then can be read by the Meta5 system. One example format being coma delimited text.

    It is very unusual for us to find source data that is in such a proprietary format that we have to break out the C++ compiler. However, it does happen. And that means we have never been defeated as to being able to get data that is needed in to the Meta5 system.

2. Ad Hoc data integration.

    The direct comparison with tools like DataStage and Informatica is deliberate. In the "normal" data warehousing environment when an end user wants access to more data that has not been previously mapped into the data warehouse then the usual process is to go to the IT department to get the data into the data warehouse via ETL tools to make it available to the end user.

    With the Meta5 system the end user can "follow that hunch" and bring the data into the Meta5 system and build the analytical application that is desired without referring to the IT staff. If the "hunch" turns out to be of no value, as is the case in the vast majority of the time, then the end user has not bothered the IT staff to get data into the data warehouse that turned out to not be valuable.

    If the "hunch" turns out to be correct and the data does have value then the end user can not only issue a request to get the data into the data warehouse, but he/she can show the IT staff how it should be integrated into the existing data warehouse.

    This ad hoc data integration is incredibly valuable and powerful because when a Power Data Analyst is performing some exploratory analysis he/she almost inevitably has access to data that would add value that has never been placed into the data warehouse.

    Data in spreadsheets, data in other databases, data on web sites, data in files. There is still a lot of data in any organization that is NOT in the data warehouse that could be of value in a new and innovative piece of analysis.

If the IT department is overloaded and cannot get to the request to put the new data into the data warehouse on the time line requested by the business then the business can use the ability of Meta5 to repeatedly execute capsules to bring new versions of the data in to the Meta5 system until such time as the IT department can get the data into the data warehouse.

Therefore, the Meta5 system supports ad hoc data integration as well as programmable data integration.

3. Integration with Excel

In the example capsule the data that was drawn from 5 different places will be placed into a single Excel workbook. The Meta5 system has it's own powerful spreadsheet tool. However, everyone knows how to use Excel. Excel is on the desktop of virtually every end user in the business world.

Therefore the Meta5 system has extremely tight and sophisticated integration with Excel. We will present more about that a little later in this document.

5.5.1. Very Large and Complex Capsules

Of course, as an introduction, the Capsule we have shown you is trivial. It is possible to create capsules with hundreds of icons inside a single capsule. There is no technical limit. If you are familiar with DataStage and Informatica you would be familiar with jobs that have many icons in them.

An example of a more complex Capsule might be as follows:
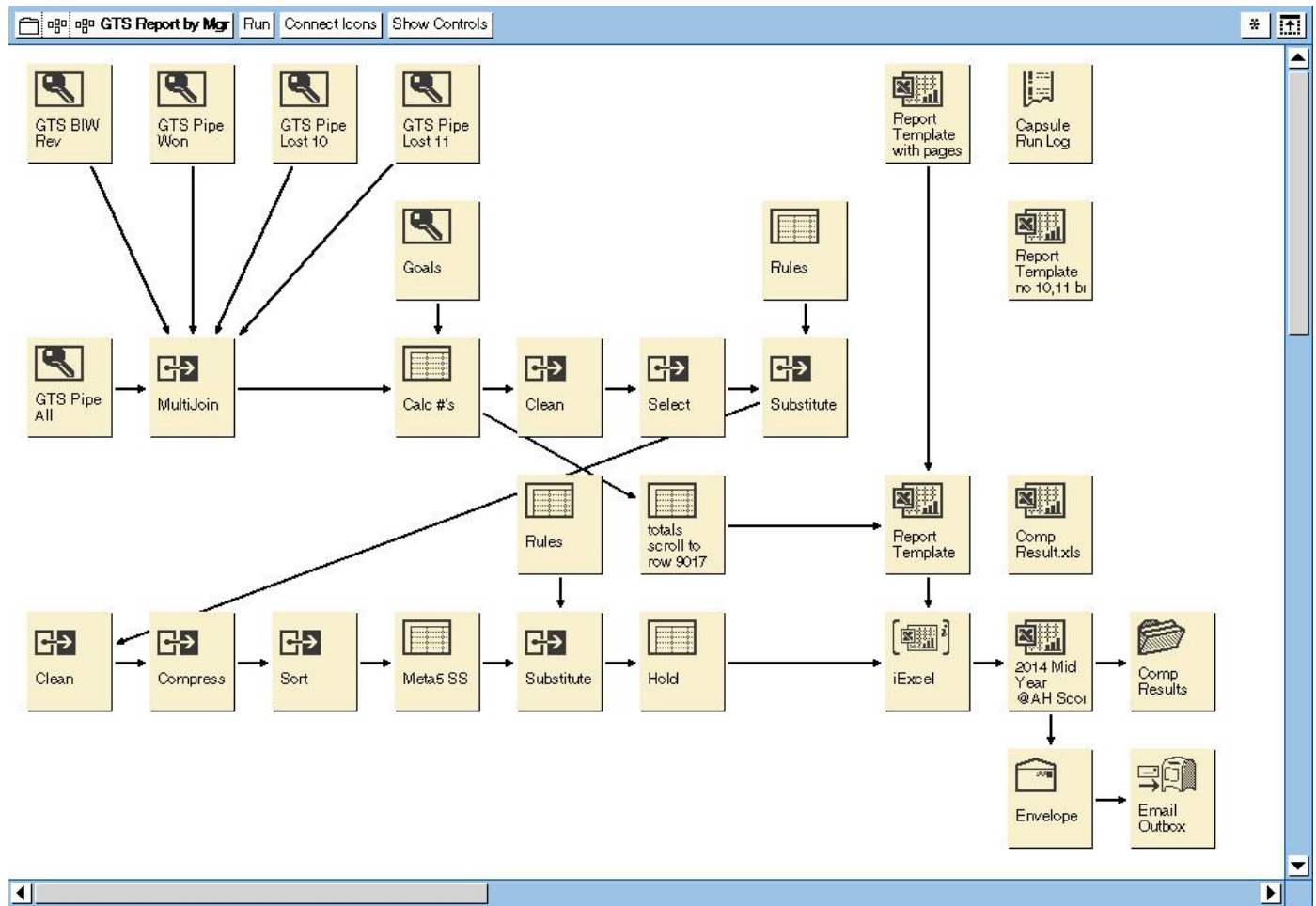
Again, just like Informatica and DataStage a capsule can be executed as part of a larger stream of processing. For example, the Meta5 System can be used to bring new data into the Meta5 system or even into the data warehouse itself, and then execute the processing to produce a series of reports followed by emailing the reports to the people who need to receive them or placing them into the Meta5 portal where they will be available for people to read them when they are ready.

Since the Meta5 system can both email reports a well as post them to the Meta5 portal the reports can be delivered to any mobile device that is supported by Excel, which is virtually all mobile devices.

5.5.2. Capsule Parameters

One of the major features that Meta5 has which was poorly copied by such tools as DataStage and Informatica is the feature of Capsule Parameters. In tools like DataStage and Informatica one needs to use the programming language of the tools to pass "parameters". The parameter setting of DataStage used to be a particularly problematic area until newer ideas finally made that easier.

The Meta5 system implemented the ability to set parameters in a simple and elegant way from the very start. They were simply called "at" variables. You could use the value "@A" anywhere in the capsule and it would perform a variable substitution with the value for @A that might have been set in the capsule.

This "at variable" could be used anywhere inside the capsule and in any tool inside the capsule. For example "Product Name" in a query might be set to @P and when the capsule sends the query to the database then the parameter for the product name will be passed and only data for that product name would be retrieved from the database.

Further, the @P might be used in headings of the report about the "Product Name" so the text of the Product Name would show in the heading of the report.

Therefore, if the Power Data Analyst has built an analysis package for one product he/she can easily extend it to be able to perform analysis on many products simply by parameterizing the capsule and all the icons in the capsule that need to know about the parameters.

The following diagram shows you what the parameters of a capsule look like and how such a parameter is expressed in a query tool.

User Input Control	Apply	Cancel	Reset							
Range of variables	A–Z	AA–AZ	BA–BZ	CA–CZ	DA–DZ	EA–EZ	FA–FZ	GA–GZ		

	Description	Type	Value
@ A	Profitability Parameters	None	
@ B	Pct of Target for "HIGH"	Number	125
@ C	Pct of Target for "OK"	Number	75
@ D	Pct of Target for "LOW"	Text	Below 75
@ E	Cross Sell Service Type	Text	CD
@ F	Branch Name	Text	Newport
@ G		None	
@ H	Product Constraint	Text	CD
@ I	First Cross Sell Product	Text	Short Term CD
@ J	Second Cross Sell Product	Text	Auto Loan, Conventional Mortgage, Market Rate Checking
@ K	Current Period	Date	03/01/01
@ L	Current Year	Number	2,001
@ M	Current Period – 1 year	None	
@ N	Number of Top/Bottom Rows	Number	15
@ O	Report Detail Level	Text	Branch

5.5.3. Data Entry to Select Data and Control Capsules

Once a capsule application is built the Power Data Analyst might want to make it widely available to other people who have no idea what is happening inside the capsule itself. To others the capsule will seem like a "black box".

Others will open up the capsule, set parameters that they understand, and then request the capsule to run, fetch their next cup of coffee, and when they return their results will be available to them.

In order to facilitate the distribution of Capsule applications to people who know nothing about what the capsule is doing the Meta5 system has a "Data Entry" tool by which the Power Data Analyst can create a simple and intuitive interface to set the parameters for the capsule.

A typical example of a data entry form is presented in the picture below.

In the data entry panel that you can see below you can see how the data entry panel can be altered by the designer of the panel depending on the "Set Parameters for Forecasting Model" option clicked. The "Set Parameters for Forecasting Model" option will change the remainder of the data entry panel so that the parameters needed for the particular analysis can be selected.

Such Data Entry panels are simple and fast to create. They can be created by the Power Data Analyst and do not require the services of IT Support or programmers.

5.5.4. Capsules within Capsules – Object Inheritance

The next feature we would like to present that differentiates the Meta5 system from any other BI system out there is the idea of "capsules within capsules" which includes object inheritance. This is not implemented in any of the BI tools. It is not even implemented in tools like DataStage and Informatica. It is not possible to put jobs within jobs with either DataStage or Informatica.

What is "Capsules within Capsules"? The following picture depicts a capsule within a capsule. The outer capsule will send data into the inner capsule and it will execute the inner capsule once per each row of data that is sent into the inner capsule.

For example, if you have 10 product lines that you want to create the "daily reports" for then the outer capsule might query the database to get the current list of product lines and then send each of the rows returned to the inner capsule so that the inner capsule will be executed 10 times, once for each product line.

The rows of data that are being sent into the inner capsule will be sent to the "capsule parameters" so that the query tools that are selecting data will select data just for the product line for which reports are being prepared in the current iteration of the capsule.

This ability to embed capsules within capsules allows the Power Data Analyst to construct extremely sophisticated and complicated analytical applications quickly and easily all without the need to talk to the IT department.

The fact that all Capsule variables from the higher level capsules are available in the lower level capsules means that the data entry form can set variables which will be available to be placed on to any charts or any reports anywhere down in the capsule hierarchy.

There is no limit to the depth of the number of capsules that can be put inside other capsules.

This gives the Power Data Analyst a full object oriented and reusable suite of capsules that can be built for specific purposes, published and re-used by other Power Data Analysts as they construct their analytical applications.

We are all aware of the value of using object oriented development techniques that make heavy use of inheritance and reuse. This style of application development has enabled an order of magnitude development productivity increase. The Meta5 system is no different in these techniques delivering productivity improvements. However, we can not emphasize too much, that the productivity improvements are for the Power Data Analyst who is creating analytical suites or Analytical Applications to be deployed to many people.

If you look at the top left hand corner of the capsule below you will see that there is a file drawer, a folder and then three levels of capsules. The capsule that you are looking at is 5 levels down in the hierarchy.
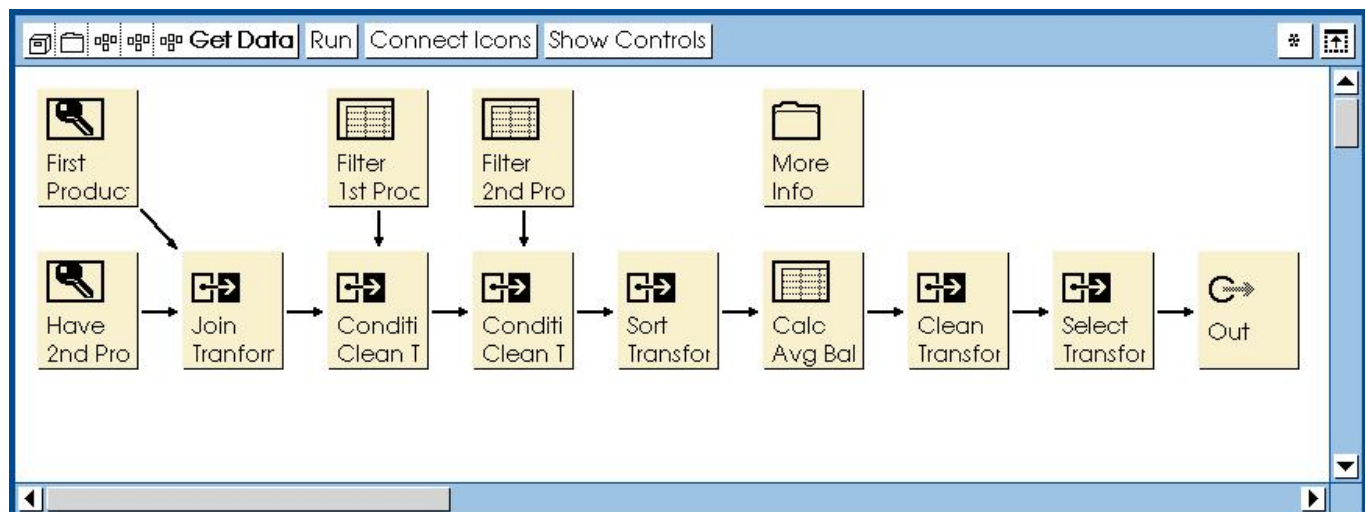
To see where this capsule actually is we have opened up the parent icons in the hierarchy.

The file drawer is the "Meta5 Sample Applications". Below that to the left is the folder "Banking Demo". Inside the "Banking Demo" folder we have opened the capsule "* Banking Demo".

In the "* Banking Demo" capsule we have opened the "Targeted Cross Selling" capsule. And then inside the "Targeted Cross Selling" capsule we have opened the "Get Data" capsule. And that is the capsule that you can see on the previous page.
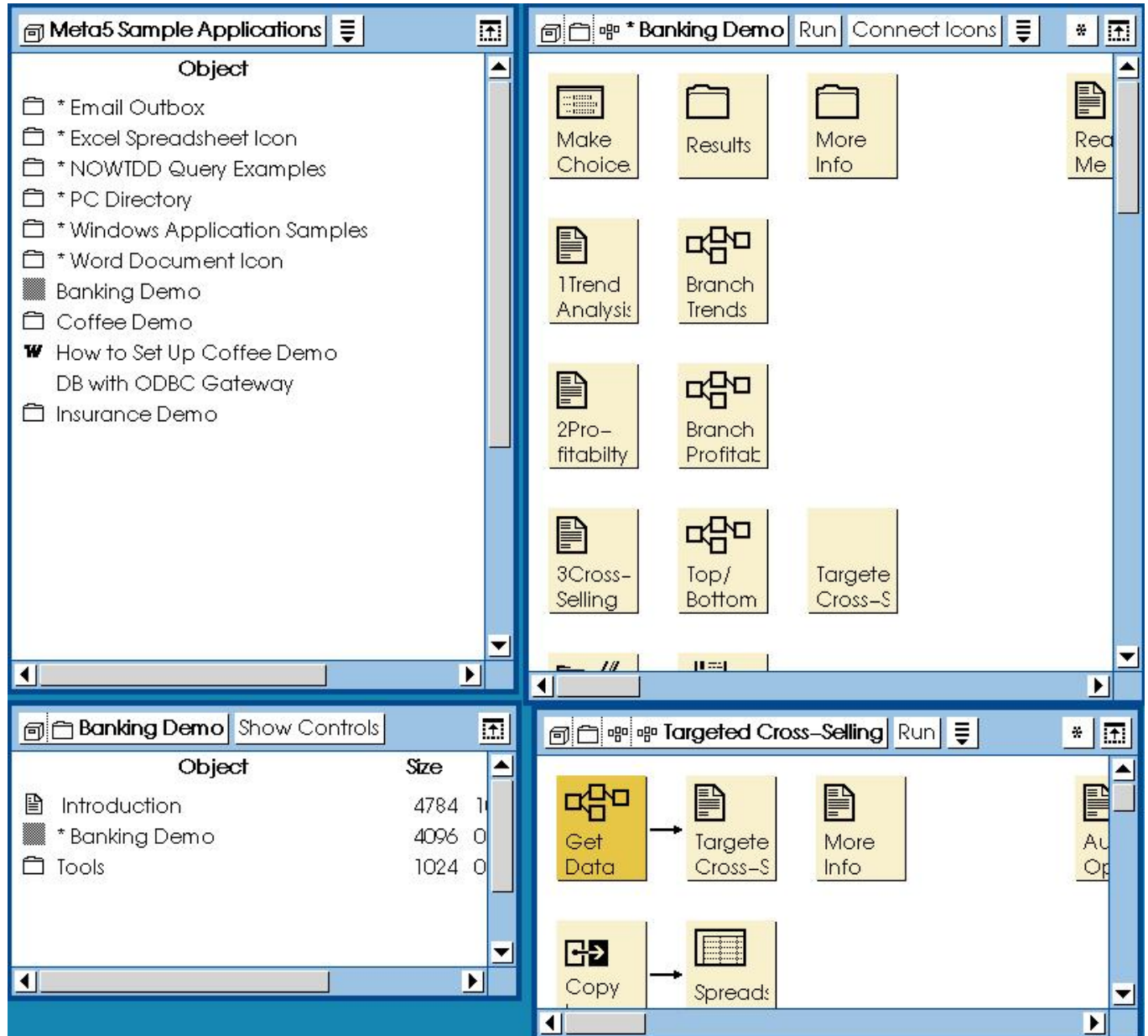
By having this "capsule within capsule" construction mechanisms it becomes possible for the Power Data Analyst to create very sophisticated analytical applications that can be deployed to be executed by any number of users.

The users select the parameters they want to run the capsule with, press the run button, and the results are sent to where ever the Power Data Analyst has decided the results should be sent. Naturally, all capsules can be run in batch mode using schedules and similar execution mechanisms.

5.5.5. Data Lineage and Programmatic Self Documentation.

The last major features we would like to present related to the Visual Programming Environment are the twin features of Data Lineage and Programmatic Self Documentation. Let us first discuss the issue of Data Lineage. For more than 20 years now the vendors have promised that they would deliver an "industry standard meta data dictionary that will document data lineage".

To say the vendors have failed miserably to co-operate and collaborate so that large companies that use many different tools can avail of some form of really nice data dictionary that can accept information from all the industry standard tools and make the data lineage of data on a report clear and easy to understand would be something of an understatement.

Today, as it was 20 years ago, the most asked question when a number on a report is well outside of the range of expectations is "how do we calculate this number"? And that inevitably leads to the question going back to the IT department to go and find out where all the components of the number came from, what ETL was applied, what calculations were applied, to get the final number.

Even worse, many customers have found, much to their own surprise, that such numbers were incorrectly calculated and that this error has gone undetected for some time before someone asked the question.

In one Meta5 banking prospective customer we supplied a demonstration system and allowed the clients Power Data Analysts to use Meta5 to query their data. An actuary who had almost no training on the Meta5 system found that the bank was trading below the legislated levels of capital adequacy.

It was found that the current reporting system had an error in the calculation of capital adequacy and that this error had never been found. However, because the Meta5 system makes all calculations visible and all data lineage visible it was a simple matter to prove the numbers generated by the demonstration Meta5 system were correct and the numbers in the current reporting systems were incorrect.

This ability to see exactly how numbers are calculated from the base data using the Meta5 capsules and the Meta5 tools is a tremendous differentiator over tools where such calculations are hidden in "universes" or "catalogs" as is the case with Business Objects and Cognos. The one unforgivable sin from the business users perspective is for the reports and analytical applications to incorrectly calculate key/important numbers and for that error to not be found until something "bad" happens.

Further, as IT department staff turn over those who created such objects as "universes" or "catalogs" move on and they leave behind poor documentation in most cases. The next person who maintains these abstraction layer objects may or may not completely understand them and more errors are inevitably introduced.

Virtually all large Financial Services companies are very likely to have had your own experiences of errors in the abstraction layers of tools like Business Objects such as the Business Objects "universe". To construct and maintain Business Objects Universes, and similar objects, takes highly specialised skills and people. These abstraction layers are notorious for being places where errors are injected into the overall Business Intelligence System.

Such errors are far less likely to be introduced by products like Meta5 because the Meta5 application is self documenting via the visual programming interface. Further, any person with even reasonable skills in reading Meta5 capsules can read the capsule and confirm the correctness or discover the errors in capsules. To review what is being done is not a specialist skill with limited availability as are such skills as ETL tools and "abstraction layer" tools like Business Objects Universes.

In short, the data lineage and programmatic self documentation feature of the Meta5 system reduces the probability of errors by design and makes errors easier to find by design.

As you can see from the demonstration screen shots above all the Power Data Analyst need to do for complete documentation of a capsule is to leave some text icons in the capsules to explain what has been developed. The documentation, where it needs to be written, resides right inside the same objects as the "programmable" objects. It is actually relatively rare to need to leave much written documentation because the applications are so easy to understand from the icons that are involved.

5.6. Integration with Excel

The next major feature we would like to present that is of great value to most companies is our integration with Excel. The vast majority of end users would prefer their reports to be delivered in Excel. They know Excel. They love Excel. They use it every day. So they ask "Why can we not deliver all our reports in Excel"?

This is a fair question. The desire to have Excel as a front end was first taken great advantage of by Essbase in the early 90s. Essbase went on to be tremendously successful and was finally acquired by Oracle. Microsoft also acquired a cube database product and released it as SQL Server Application Services together with a new language, MDX.

Both Essbase and AS were successful, in part, because of the quality of their interface with Excel. Suddenly finance people could get to large amounts of data without leaving their beloved Excel spreadsheets.

Of course the problem with Excel is links. People build "Excel spreadmarts" and link Excel workbooks so frequently that in the end the linkages become fragile and no one really knows what changing one of the thousands of spreadsheets might do to other spreadsheets.

We at Meta5 have solved the two sides of this problem so that Excel can be used as the delivery mechanism for those reports that are suitable to be delivered via Excel.

The first side of the problem that the Meta5 system addresses is that it makes it trivial to get data from a relational database directly into an Excel spreadsheet because we control the placement of the data into the Excel spreadsheet via our own APIs.

The second side of the problem that the Meta5 addresses is that the data integration from all the components is performed inside the self documenting visual programming environment of the Meta5 system and only the final results are sent to the Excel workbooks. This means that there is no need to link Excel workbooks using the Excel links which is the source of the "Excel spreadmarts" and the "Excel hell" of fragile links.

The Meta5 system can send data into any number of named regions in a target Excel workbook and the Excel workbook can contain charts and drills for the resultant data that has been sent into it. This means that the most complex and sophisticated workbooks can be developed and the data can be delivered into the Excel workbook via the Meta5 system.

The Meta5 system can execute capsules repetitively to generate Excel workbooks for various business subject areas such as product lines and then place those Excel workbooks into any location that the Power Data Analyst desires including as email attachments or reporting portals.

In short, while every other major BI Reporting Tool vendor has been spending their development money on emulating the features of Excel so that their users can more easily adapt to the "look and feel" of their tools, Meta5 took the unique and different approach of delivering the data to Excel in such a way as to remove the problems and issues related to using Excel as the delivery tool for graphical reports.

The Meta5 system has similar integration capability for Word so that if a report is more text based than graphical based the output for the report can also be a Word document.

By taking advantage of the ubiquitous nature of Microsoft Office and making Office one of the main ways that reports built in Meta5 can be delivered the Meta5 system itself becomes very much a "black box" to the vast majority of people who might consume the reports generated by the Meta5 system.

In any large organization a small group of Power Data Analysts who are true experts in the business and expert users of Meta5 can easily build and support analytical applications that can deliver their results to the "masses" of users via the ubiquitous Office products and similar compatible products. In such cases end users do not need to learn a "slightly different look and feel" for the reporting system because they will be getting their reports in Excel, Word or PDFs generated out of such tools.

In these cases the Meta5 system becomes the "engine room" of the generation of reports that are delivered by every day familiar tools. The investment in Office is leveraged. There is no need to be buying large numbers of end user licenses for "BI Tools" as is the case today. All the vendors are selling BI Tools where they required some form of "per user" or "capacity" licensing so that they can derive more revenue from their clients for the more seats of the BI Tool that are deployed.

The Gartner report cited above repeatedly mentions that one of the inhibitors for rolling out BI Systems in large companies is the license fees the vendors ask for when they roll out new client seats. The Meta5 system does not require large companies to buy more and more seats for more and more users. If the "masses" of users are happy to get their reports in Excel and Word these reports can be generated and sent to them via email or portals and they can do with those reports what ever it is they see fit.

The only license revenue that may be driven from rolling out reports to large numbers of people is that there might be more "batch execution engines" required to crunch the data to put in to the Excel / Word reports. However our "batch execution engines" are a fraction of the cost that other vendors ask for in terms of new license fees for more seats. Especially in large companies.

The following diagram demonstrates how Excel integration happens inside the Meta5 system.
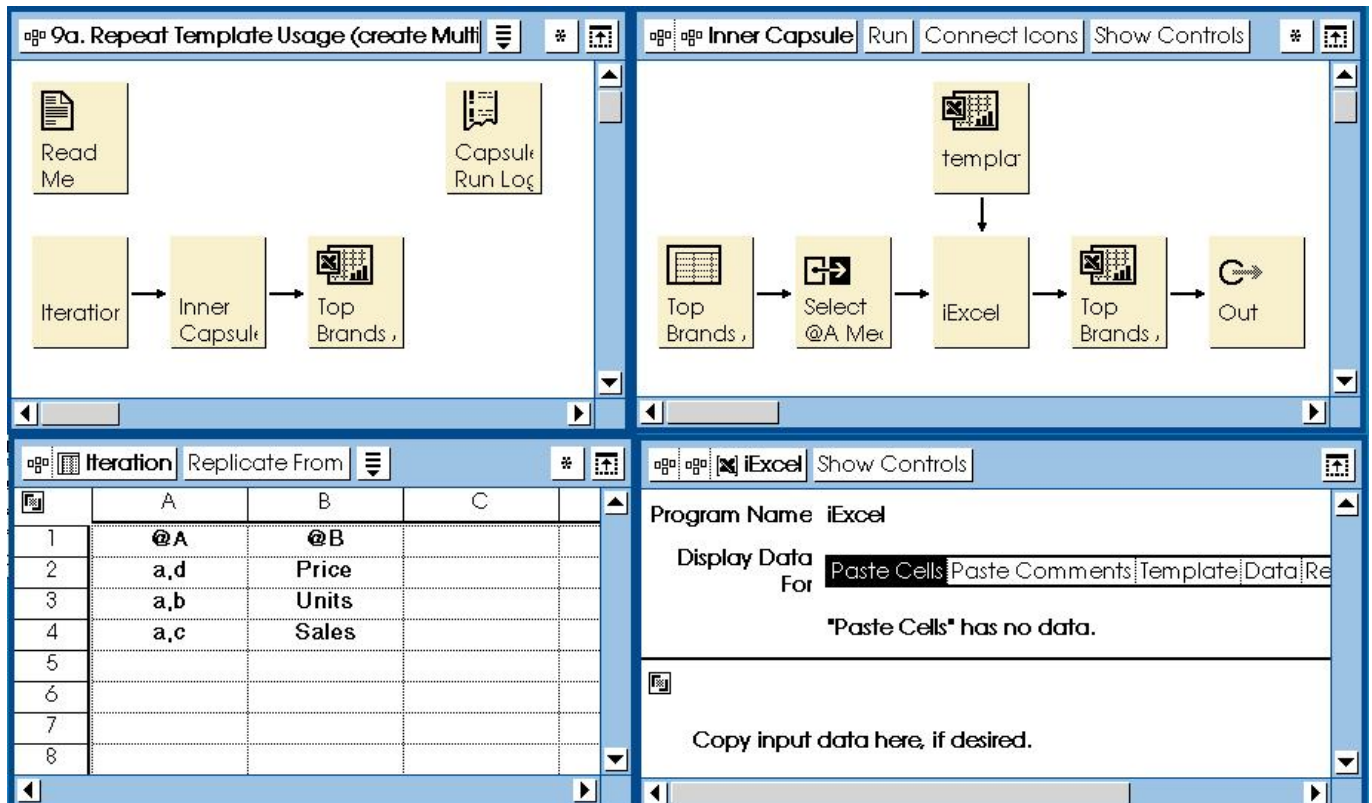
The outer capsule is the "9a Repeat Template Usage, create Multiple Sheets". In this example the output of the capsule will be an Excel workbook with three worksheets. Price, Units, Sales.

The spreadsheet "Iteration" sets the variables @A and @B to be as you can see. "a,d", "a,b", "a,c". Price, Unit, Sales. These variables are passed into the "Inner Capsule" which will select data from the "Top Brands" spreadsheet to create the three worksheets. The "iExcel" icon will manipulate the data flow to create an Excel workbook based on the "Template" Excel workbook that has three sheets. It will then send the workbook with the three sheets to the "Out" icon so that the data can flow out of the capsule to the outer Excel workbook.

Of course the outer Excel workbook could be posted to a portal or emailed to users.

To understand how the Excel integration is achieved in the iExcel icon you can open up the controls and read what controls are available. These controls are used to interface with the Excel APIs to send the data into the workbook and to render the charts. It is even possible to define the type of output desired such as pdfs.

Notice that the third parameter is the "Rename Template Sheet" option and it is set to @B. This means the sheet will be renamed to Price, Unit, Sales as per the iteration spreadsheet that is driving the inner capsule. Naturally it is possible to create as many worksheets as Excel supports.

And, of course, we just have to show you the finished Excel workbook. What we want to emphasis is that as long as it is possible to present the data in an Excel workbook we are able to gather up the data via the Data Analysis Desktop using the unique capsule capability to prepare and present any data possible to be presented in an Excel workbook.

No one else can do this. Not even Microsoft.
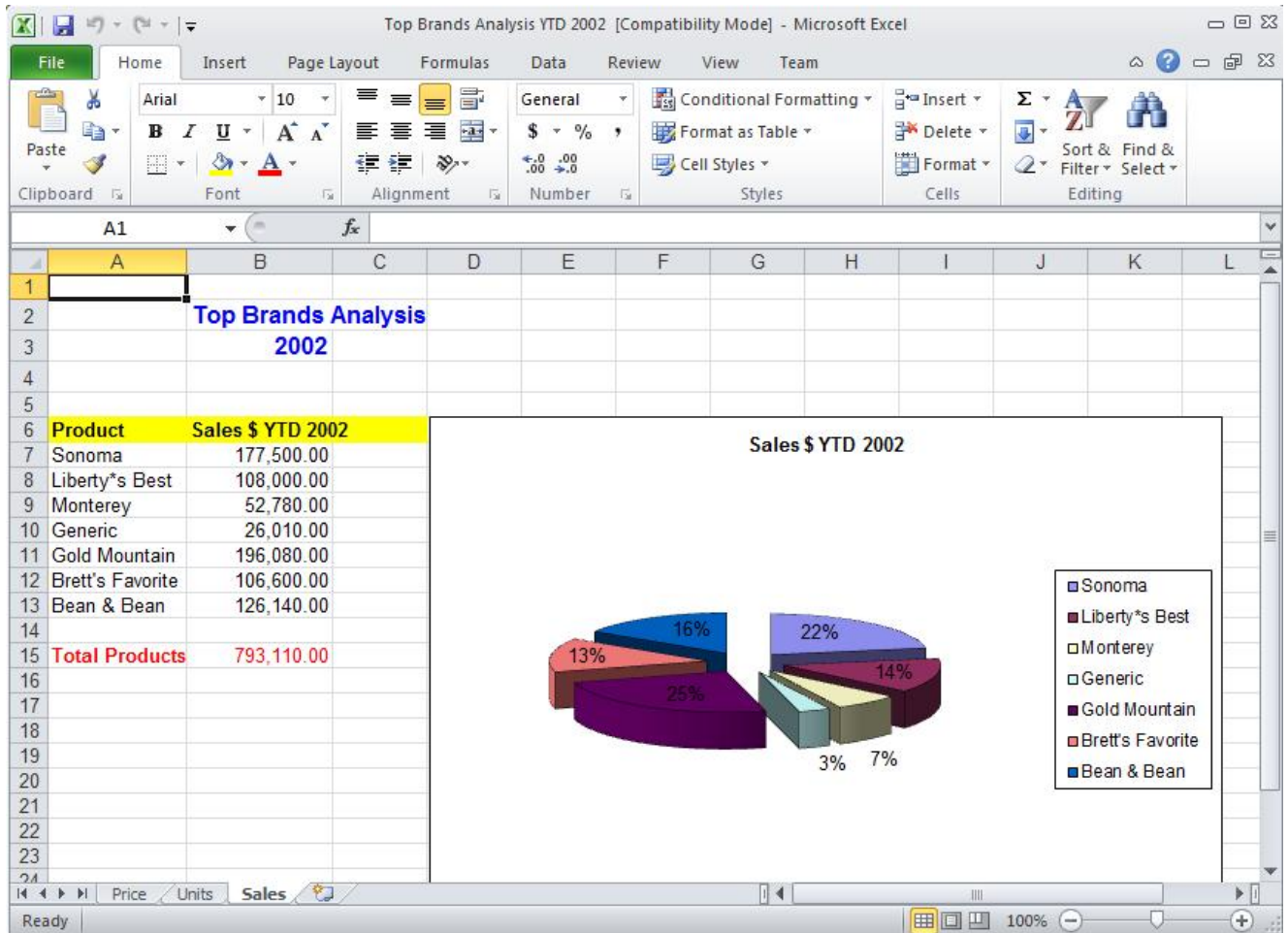
5.7. *Capsule Execution and Delivery via the Meta5 Portal*

So far we have described to you the Meta5 desktop and shown you that we have features that are as unique as they are powerful and valuable. What we have discussed is the Meta5 system that is intended for the Power Data Analyst to use.

One a Power Data Analyst has developed a high value, high impact application he/she might wish to deliver the reports to "the masses" in either a scheduled environment or in a "run on demand" environment. This is where the Meta5 system needs to "look like all the other vendors".

In order to deliver "run on demand" or "run on a schedule and deliver the results" we have developed the Meta5 portal environment. We have deliberately created it to look similar to other portals. Most notably it is not dis-similar to the Microsoft Report Services Portal.
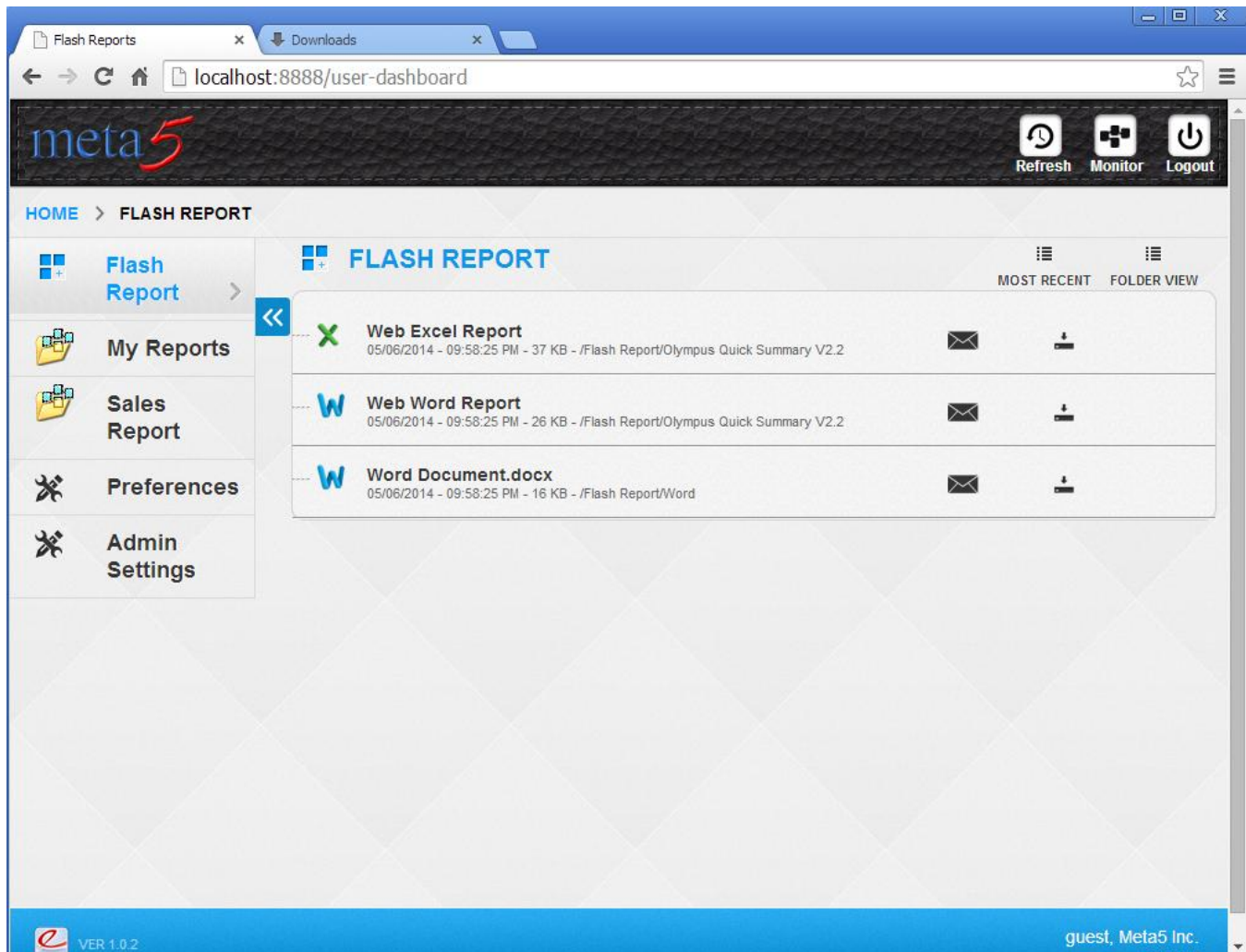

In this image of the portal you can see that the user has "Flash Reports". These are reports that are posted to the users portal on a schedule. They are finished reports that can be previewed, emailed and downloaded to the users personal device no matter what that device might be. The typical delivery mechanisms are Excel, Word and pdf. However, virtually any delivery mechanism can be used as long as it is supported by the remote device.

On the previous image you can also see folders for "My Reports" and "Sales Reports". The user can have any number of folders configured in their own personal portal. These folders co-relate to the Meta5 desktop name that is being viewed via the portal.

Each portal user has their own desktop they are linked to in order to provide the ability to configure the portal at the individual user level. Security is also provided inside the meta5 system so that a new security layer was not needed in the portal layer.

When we click on "My Reports" we get another sub folder opening up as follows:
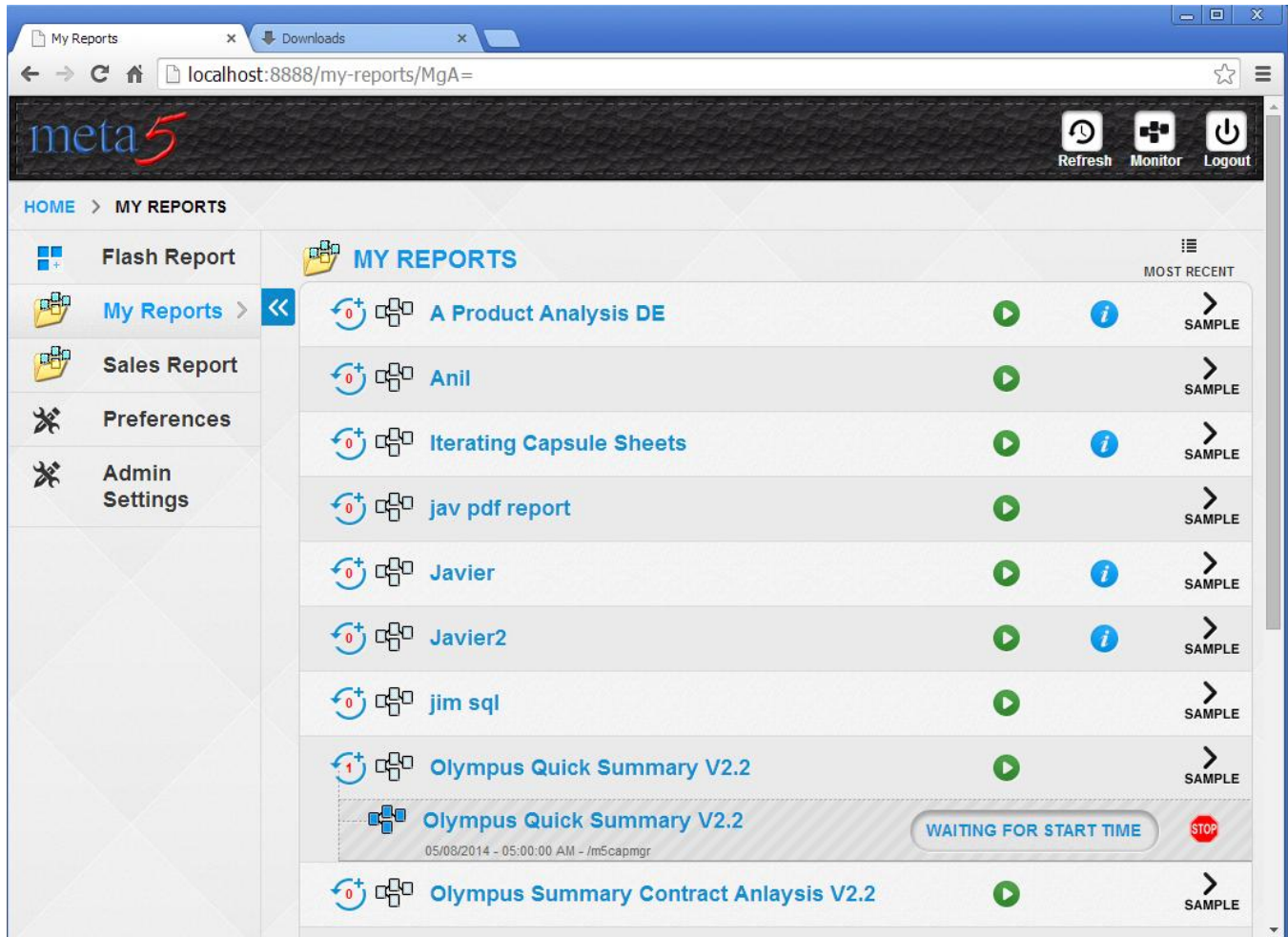
In this sub folder you can see capsules. These are the sets of reports that are able to be run by this user from this folder. The green arrow is "run". The "i" is an information button to tell the user about the report. The Sample will bring up a sample report if one is available.

The capsules can be run many times over and the user can retain a history of the reports he/she has run. The user can delete older reports should he/she wish.

Where a capsule requires parameters the report will ask for those parameters when the "run" button is clicked.

As you can see the "Olympus Quick Summary V2.2" report is scheduled and "waiting for start time". This is to demonstrate the scheduling capability in this interface.

The reports are delivered via Word, Excel, PDF and other popular rendering tools. This simple and intuitive interface is how the finished reports are delivered to "the masses".

The heart of the value is that the Power Data Analysts in the company can build the capsules that can then be used by anyone or scheduled to deliver reports in existing tools to any users who wish to have them and are authorized to have them.

5.8.   Summary on The Meta5 Difference

The other vendors in the marketplace often attempt to be "all things to all people" They have a heavy focus on license revenues from their clients. To do this they have extended their products in line with where the greatest revenue opportunities are. That's business. It is what they are supposed to do.

However, by doing this they have neglected the "Power Data Analyst" in favor of "the masses". The other vendors make the simple simpler and the complex near impossible. This is because they are trying to give the same tools to people who do simple things and people who do complex things. They have tried to create "one size fits all" tools or tools that have "optional extras" that have to fit in to the "standards" for the overall tool kit.

This has proven not to work. And it has proven not to work over quite a long time now.

Other vendors get the complex work done by invoking some sort of programmable environment to achieve what is needed. It might be using C++, it might be using stored procedures, it might be using scripting languages like vb.net, perl, java or any other of the many languages out there.

The point is that with all other vendors tools there comes a time when you have "reached the limit" and you have to break out of the tool and do some "custom development". And we all know what that means. That means time, money and effort to maintain for years to come!

The Meta5 difference is that we focus on the "Power Data Analyst" and we give him/her ALL the tools they need to "make the impossible routine". The 120+ suite of integrated tools allows the Power Data Analyst to perform the most complex of ad-hoc analysis. This allows the Power Data Analyst to follow their "inspired hunches" to determine if their hypothesis about some aspect of the business or some new idea is true and/or viable.

This is where the real value is in Business Intelligence. It is in finding those transformative ideas that will radically alter the profitability of the organization. Only a very few people in any large organization have the depth and breadth of understanding of the business, the data, the external business environment, the politics of the organization, that they can take all these things in to account when generating new and transformative ideas and business proposals.

These are the people that the Meta5 system is intended for. The best and brightest Power Data Analysts who are charged with coming up with new ideas that can dramatically impact the organization. By making them five times more productive they have more time and more opportunity to test these new ideas.

This difference *"empowering thought leaders to user data in ways never thought possible"* is the Meta5 difference.

It is enabled by the key features that we have presented here:
   • The vast array of tools available to use, as well as easy integration to third party tools.
   • The visual programming environment.
   • The innovative capsule capability that other vendors like IBM and Informatica copy in their ETL tools.
   • The ability to create "data entry forms" to set parameters for the execution of analytical applications/reports.
   • The capsule within capsule within capsule object oriented programming approach with full inheritance of variables so that extremely powerful capsules are easy to create. The impossible made routine.
   • The integration with Microsoft's ubiquitous Office product for delivery of reports via email or portals.

The Meta5 difference is the ability to leverage the skills of the people with the most comprehensive understanding of your organization to the maximum possible amount so they have five times more time to think about your business than the other vendors can give them today.

For many clients, *the Meta5 system IS the difference that MAKES the difference.*

6. PRICING

For the Meta5 System "Try and Buy" service we are offering prospective clients the following:

1. A fully configured Meta5 System with 6 desktops and three capsule execution engines.

2. The Meta5 system will be configured by Meta5 and delivered by way of a Virtual Machine that can be placed inside your firewall. We require a fixed IP address to be allocated by your company for the machine.

3. The machine will be configured with 100GB of space in the Meta5 file system.

4. The system will be configured to connect to any ODBC compliant database you might wish to connect to.

This Meta5 System will be delivered via a small USB laptop drive to your company.

The Meta5 system may be rented for 3 months or 6 months at a price of USD15,000 or USD30,000 respectively.

The investment in the "try and buy" is credited against any possible future order for the Meta5 System. The investment in the "try and buy" approach is merely to ensure that the prospective client takes the process seriously.

We are confident that your staff will be able to use the Meta5 System with little or no formal training. However, should you wish training or consulting support for your "try and buy" evaluation we are able to provide on-site or remote support on an hourly rate basis.

For the purchase or rental prices of the Meta5 System at the end of the "try and buy" process we can provide a separate Excel Sheet that details these prices. However, all sizable financial serviced organisations can easily afford a Meta5 system for your Power Data Analysts. It is much more a question as to whether you can justify the cost of a Meta5 system by improving your business decisions enough to pay for Meta5.

All pricing is indicative and subject to negotiation by your authorised representatives depending on the overall proposed investment.