



USERS CONFERENCE 2017



New Reporting Tool

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Technology Update

New development in the area of reporting.



In this session we are going to discuss changes we are currently working on in the area of reporting. These changes are pretty substantial, and the new tools will provide opportunity for more and more in the way of new features for some time.



New Reporting Tool

- new reports using BIRT reporting tool
- enabled by data available in DB2
- works using either full DB2 or PxPlus with DB2 Mirroring
- data for BIRT reports comes from DB2

At past conferences we spoke briefly about a reporting tool that we had been investigating called BIRT. At the time we were able to explore BIRT and its capabilities, however we were not able to begin truly significant work in this area without data available in a relational database. So until recently most of our efforts were research and planning oriented.

Our ability to start using BIRT in earnest was tied to our being able to use relational database technology. As was mentioned earlier, this is now possible due to recent progress on DB2 overall, and our increased capabilities through improved mirroring of data to DB2. In other words, you will be able to use the new reports whether you are on full DB2 or you are using mirroring to provide DB2 data.

The role of DB2 in all of this, is that the data for the reports comes from the DB2 database.



New Reporting Tool

- DB2 provides performance benefits and ...
- easier to combine data in more ways for richer report information
- many reporting improvements result from BIRT features

Using DB2 as the source of data for BIRT reports provides benefits related to performance,

plus it makes it easier to combine data in more ways to produce richer report information.

But there are quite a number of benefits we will see related to reporting that we derive from the reporting tool.

Most of this session will be focused on how BIRT changes our reporting solutions and the benefits we get from the use of BIRT.



New Reporting Tool

- BIRT based reports using DB2 will be available for upgrades or new installs beginning in June
- the new reports will be available without a complete upgrade to clients on a newer version of Maves - have mirroring running

Earlier today I mentioned that BIRT with DB2 provides a number of improvements that include performance, report aesthetics, and new functions within the reports produced. We'll take a look at this in a moment and get into some of the details.

But first let's discuss the timing of when we will start to see BIRT based reports and what we will see at the start.

BIRT based reports using DB2 will be available shortly after our next next release planned for April. They are planned to be available for both upgrades and new installs beginning in June.

we won't create a new release, at that time. Instead they will be added to deployments as an add-on and they will be incorporated directly into the following release – timing of that release has not yet been set.

In addition, we will be able to provide the new reports without a complete upgrade to existing clients on a recent version of Maves. Specifically this includes those clients with a Maves release from the last couple of years. These are clients that

have mirroring running on their system already.



New Reporting Tool

- what is BIRT?
- where does BIRT come from?
- how much will it cost?
- what does BIRT offer that would motivate us to re-write our reports?

So with the “when” question out of the way, let’s talk about what is BIRT?

And we’ll also address

Where does BIRT come from

how much will it cost?

What does BIRT offer that would motivate us to re-write our reports?



New Reporting Tool

- what is BIRT?
- Business Intelligence Reporting Tool
- written in Java and designed to be integrated into web based applications
- it can be integrated into applications of all kinds – not just Java

What is BIRT?

As we've already stated, BIRT is a reporting tool. The acronym, in fact, is Business Intelligence Reporting Tool.

BIRT can be integrated into applications of all kinds, but BIRT itself is written in Java and is designed primarily to be integrated into web based applications. So BIRT is reporting using modern tools.



New Reporting Tool

- what is BIRT?
- includes a run-time platform for running reports developed using BIRT
- also includes a report designer tool to develop BIRT reports
- finally, there is also a BIRT Charting Engine
- run-time is installed on the server by Maves
- reports are easy to deploy to the BIRT server

What is BIRT?

There are 2 main components to BIRT.

The first component is a run-time platform used to run reports that have been developed for BIRT.

The other main component of BIRT is a report designer tool. Maves uses this tool to develop BIRT based reports.

There is also a 3rd component that I will mention for completeness, and that's a charting engine. We are still working our way through implementation of basic reporting and have few available details at this time regarding the charting features. But this is something we will explore further in the near future – no timing available yet.

The run-time is installed on the Maves server by us. You can consider it a part of the Maves system and it requires no additional effort on your part to use it.

Once reports are developed they are very easily deployed to the BIRT server and they are

then available to be used.



New Reporting Tool

- where does BIRT come from?
- BIRT is open source software from the Eclipse Foundation
- members include IBM, Oracle, Google, and SAP and several others
- BIRT project was started in 2004 and the first release was in 2005
- BIRT is built into into product offerings of these large technology companies
- it is stable and well supported!

BIRT is an open source product from the Eclipse Foundation.

The Eclipse Foundation is an open source organization whose members include IBM, Oracle, Google, and SAP just to mention a few.

BIRT itself was started in 2004 and the first release was in 2005.

Some of these organizations have built BIRT into some of their own product offerings.

The point here is that it is a stable, well supported product with extensive functionality.



New Reporting Tool

- how much will it cost?
- clients that want to develop their own reports can use BIRT freely to do so
- the BIRT tools are open source so ...
 - no additional costs for reports built with BIRT and using the BIRT run-time
 - no additional cost to use the BIRT designer

For any Maves client that wants to develop their own reports they too can use the BIRT designer tool freely to do so.

The BIRT tools are open source it means there is no additional cost to reports that are built with and require the BIRT run-time to execute. And, if you are interested in developing your own BIRT based reports, there is no additional cost to acquire and use the BIRT design tool either..



New Reporting Tool

- Crystal Reports provides similar capabilities, but it does require a commercial license
- to use which you have to purchase
- Crystal Reports can still be used but ...
- if you're on PxPlus with DB2 mirroring
 - may continue using PxPlus odbc or
 - switch to using jdbc connectors to DB2
- if you're going to be full DB2 you must switch to jdbc and DB2

This might be a good time to bring up Crystal Reports

For those not familiar with this product, Crystal Reports provides similar capabilities to BIRT. However Crystal Reports does require a commercial license to use which you have to purchase.

I mention Crystal Reports because a small number of clients use this, Dale being one of those.

If you are using Crystal reports today you can continue to use this, however some things to be aware of ...

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New Reporting Tool

- what motivated us to re-write our reports?
- basic capabilities to help reports look better, look more modern, be more readable, eg ...
 - different fonts and font sizes;
 - bolding and italics;
 - borders, underlines (real underlines);
 - background shading;
 - and a variety of other capabilities

Now let's talk about capabilities and benefits. This will help to answer the question "what would motivate us to re-write our reports?"

So far we've established the product is stable and established, is well supported from a well-backed organization, and it's free. All of that is great, but those reasons alone are not enough to go ahead and re-write all the reports – that's quite a bit of work to do. So these tools have to have give us more, which means give you more.

So we'll take a look now at what it actually provides starting with some basics. BIRT has a variety of capabilities that allow reports to be developed that look better, are more readable, and generally look more modern. Of course the bar is not set too high on that last one – but we're working on changing that.

These are some examples ... the tools support the use of different fonts and font sizes; using bolding, borders, underlines (real underlines), background shading, and a variety of other capabilities - all of which can be used to develop more aesthetic and readable reports.

These capabilities alone are a pretty good start at good reasons to update our reports.



New Reporting Tool

- more advanced capabilities
 - logos;
 - barcodes;
 - images
- previously required Uniform or similar tools
- result was more time, more money, custom solutions
- much better performance

However, as they say on the infomercials, but wait there's more!

Reports with BIRT can also include things like logos, and barcodes, as well as other images. These advanced capabilities help reports look better still and add more usability to them.

In the past you had to resort to pushing our legacy reports through 3rd party tools such as Uniform or similar to accomplish these things. This of, course, took much more time and therefore more money. And, of course, once you did this you now have a custom solution that brings with it more overhead ... principally more time and energy to bring them over when performing upgrades.

Although this is more a result of the underlying DB2 data source, I'll mention again, the performance of reports we have been working on is also considerably better.



New Reporting Tool START OR51 REPORT IN MAVES



I'm going to provide a real glimpse at how performance has improved. I'm going to run OR51 in Maves using the traditional reporting with PxPlus data.

This is being run on a demo database with a little over 300 clients, over 31000 products, and over 58000 lots. So this is not an extremely huge data set, but it is a decent sized database. I'm going to generate the report for all clients and products and include locations in the report.

I will start the report directly on the server. The server is running as a VM on this laptop. Note, you would probably get much better performance as your server is no doubt a lot more powerful than this laptop.

After we start it we'll just leave it running for a bit and come back in a few minutes.

You may be wondering about the casserole coming out of the oven. That's because this reminds me of those cooking shows. But unlike those shows where we put something in the oven and immediately pull a ready cooked one out of another oven. This is all live. So we're going to leave this running now and we'll come back to it later.



New Reporting Tool

SAMPLE REPORT LAYOUT

Test Company								MAVES
Inventory by Client, Product, Lot for all Warehouses								OR.51L
Printed on Mar 8, 2017 1:47 PM								Page 4
PRODUCT CODE	DESCRIPTION	WHSE/LOC	SKU	ON HAND	AVAIL	GROSS WEIGHT	NET WEIGHT	CUBE
Client: 00001 ABC COMPANY								
00174	CDB MEATLOAF SLC 4OZ		CS	401	0	4,419.020	4,010.000	48.900
120205 2005-12-02 Additional Id:135472								
	01	011A01		10	0	110.200	100.000	0.000
	01	011A02		88	0	1,079.960	980.000	0.000
	01	011A04		150	0	1,653.000	1,500.000	48.420
	01	011A06		50	0	551.000	500.000	0.000
	01	011A12		88	0	969.760	880.000	0.000
	01	SHIPDOCK		4	0	44.080	40.000	0.000
	05	01-00101		1	0	11.020	10.000	0.480
010923	2011-02-01			5	0	55.100	50.000	2.400
060605	2005-06-06			5	0	55.100	50.000	2.400
	05	01-00101		4	0	44.080	40.000	1.920
	05	01-00101		4	0	44.080	40.000	1.920
Product Total: 00174				410	0	4,518.200	4,100.000	53.220
00174p	CDB MEATLOAF SLC 4OZ		CS	10	0	53.500	50.000	0.000
121231 2011-03-05								
	01	011A05		10	0	53.500	50.000	0.000
Product Total: 00174p				10	0	53.500	50.000	0.000
00175	CDB MEATLOAF SLC 3OZ		CS	333	0	3,626.370	3,330.000	151.560
071006 2006-07-10								
	01	011A02		333	0	3,626.370	3,330.000	151.560
081408	2008-08-14			176	0	1,916.840	1,780.000	80.960
	01	011A17		88	0	958.320	880.000	40.480
	01	011A18		88	0	958.320	880.000	40.480

Shortly we'll take a look at a report in BIRT live to see an example. That will provide a glimpse into how the formatting can be revised to improve the layout and look. Unfortunately we are still early on in the process so the formatting has not been completely designed yet - so what you will see is preliminary.

On this slide is a quick peek at a newer format for the OR51. As I said it is still early, just what the techies came up with – we have not reviewed it internally and taken in any feedback, but already I think it is an improvement over the current layout.

So to recap ... we have discussed when BIRT reports will first appear,

We know what is BIRT?

And Where it comes from, as well as the cost – nothing in case you think you missed something?

And hopefully now we also have an idea as to why we would make the effort to re-write our reports using BIRT? I think everything we have covered so far is reason enough.



New Reporting Tool

- additional advanced capabilities – there's more to reports these days than printed paper

report viewer

BIRT Report Viewer
Showing page 270 of 1489

Test Company
Inventory by Client, Product, Lot for all Warehouses
Printed on Mar 8, 2017 1:47 PM

MAVES
OR.51L
Page 270

PRODUCT CODE	LOT ID	DESCRIPTION	WHESELOC	SKU	ON HAND	AVAIL	GROSS WEIGHT	NET WEIGHT	CUBE
Client: CASVIN Client CASVIN									
ME786980 BEEF TRIMMINGS 75% 40# CS									
1335 8094 2008-04-03 01	Additional Id02190CMAHA				660	0	40,920.000	39,600.000	1,287.000
01	012015				120	0	7,440.000	7,200.000	234.000
01	012016				80	0	3,720.000	3,600.000	117.000
1335 8095 2008-04-04 01	Additional Id012408 TEYS				700	0	43,400.000	42,000.000	1,366.000
01	011A03				140	0	8,680.000	8,400.000	273.000
01	012G09				560	0	34,720.000	33,600.000	1,093.000
1335 8095 2008-04-04 02	Additional Id011608 TEYS				605	0	37,510.000	36,300.000	1,179.750
01	011C04				605	0	37,510.000	36,300.000	1,179.750
Product Total: ME786980					5,183	0	321,346.000	310,980.000	4,997.850
ME94603040 BEEF TRIMMINGS 50% 40# CS									
1335 7274 2007-10-01 03	Additional Id079507CHSTR				989	0	41,538.000	39,560.000	0.000
01	012F07				40	0	1,680.000	1,600.000	0.000
01	012H02				400	0	16,800.000	16,000.000	0.000
01	012H03				80	0	3,360.000	3,200.000	0.000
01	012H04				40	0	1,680.000	1,600.000	0.000
01	012H06				80	0	3,360.000	3,200.000	0.000
01	012I11				40	0	1,680.000	1,600.000	0.000
01	012K09				40	0	1,680.000	1,600.000	0.000
01	013001				29	0	1,218.000	1,160.000	0.000
01	013T07				40	0	1,680.000	1,600.000	0.000
01	013T12				40	0	1,680.000	1,600.000	0.000
01	013T14				40	0	1,680.000	1,600.000	0.000
01	013U08				40	0	1,680.000	1,600.000	0.000
01	013U15				40	0	1,680.000	1,600.000	0.000
01	013U16				40	0	1,680.000	1,600.000	0.000

Now let's talk about the output that results from running a report. So far the new features have been about the look and feel of the report - what you see when you run it. This is definitely important.

But we also have some new capabilities related to the nature of the output that is produced. Reports don't have to be only about the paper that comes out of the printer. There's more to reports these days, such as ...

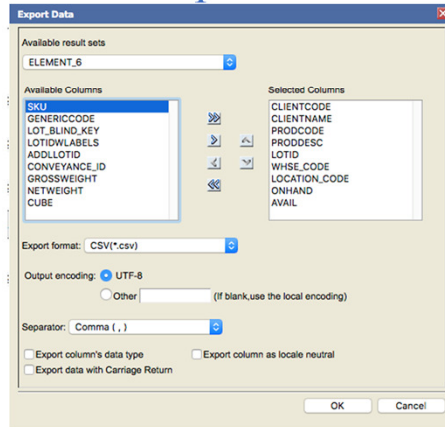
When reports are developed and run, all reports that are produced can be viewed in the browser with a report viewer. The report viewer is part of the run-time platform. This is a fairly simple tool but provides a nice way to see the reports in the browser. To be fair, the report viewer we provide today is pretty good. The new report viewer has a few more features and it runs in the browser requiring no additional software.

This is a screen shot of the viewer. I won't go into the details right now, it will be easier to see those when we look at it live in a few minutes.



New Reporting Tool

- reports can be saved as PDF and other formats
- data for any report can be exported to CSV
- no additional development effort – these are automatically available in all reports



As we can today, the reports can be sent to PDF, but now there are a variety other formats as well.

Plus, the data for any report can be exported to CSV.

All of these additional capabilities are available with no additional development effort per report. All you do is develop the report and these added capabilities are immediately present and available to your report.

With our legacy tools exporting the report data to CSV is a separate and independent development effort required for each report. Over the years we have spent effort adding CSV output to more and more reports, but it is still not available in all reports that you currently have available in Maves. This is something that some of our clients are very aware of as we are often asked to have a report available for export to CSV. That will no longer be the case.



New Reporting Tool

- what is BIRT?
- where does BIRT come from?
- how much will it cost?
- what does BIRT offer that would motivate us to re-write our reports?
 - features and capabilities that are great new additions or were missing and needed
- what's in it for me?

We've covered a number of questions that we thought would be important to you.

I want to continue now with trying to answer one last question — “what's in it for me?”. And when I say me, of course, I mean you our clients.

This question actually has multiple parts because we believe the same question may be asked by different clients or users that have different circumstances and need.

Let me explain by giving you the 3 different scenarios I have in mind and then I'll try and address each of them.



New Reporting Tool

SCENARIO 1

I have no ability or desire to write reports or have any custom. The Maves canned reports are so great why would I want anything more?

(NOTE, we get this a lot)

How does all of this re-write affect me?

What will I see different?

SCENARIO 1)

I'm a user with no ability or desire to write reports or have anything custom - the Maves canned reports are so great why would I want anything more (we get that a lot you know)? So how does all of this re-write affect me? What will I see different?



New Reporting Tool

SCENARIO 2

I won't be writing any reports, but I do want changes now and then which I will ask Maves to do for me.

What differences can I expect?

Will you handle my change requests faster and / or cheaper?

SCENARIO 2)

I won't be writing, or even modifying, any of my own reports, but I do want changes now and then and I will come to Maves for these changes.

What differences can I expect?

Will you be able to handle my change requests faster and / or cheaper (everyone always wants cheaper)?



New Reporting Tool

SCENARIO 3

I can and do want to write reports myself.

How can I do this?

(We don't get this a lot, but it is important just the same.)

and last

SCENARIO 3) I can and do desire to write, or at least modify, reports myself. How can I do this?

(We don't get this a lot, but I think it is an important one to address just the same.)



New Reporting Tool

- how you access and run reports will change
- menu options are the same
- when you select a report option the system will know to run the new BIRT based report
- browser tab opens instead of a new window

So let's start with SCENARIO #1.

This is someone that just wants the canned pre-built reports.

Let's look first at how you access and run reports – you will see quite a bit of change here – not so much functionally, but it will look quite different.

We are finalizing some decisions regarding where on the menus you will see and access reports in order to run them, this is a fairly minor aspect of the changes being made. But worth touching on so you have a complete picture here.

The present approach we are working on is that the menu options will remain as is.

However when you select a report option and that report is now a BIRT based report, the system will know to run the new BIRT based report. So when looking at the menus you will not immediately see a difference.

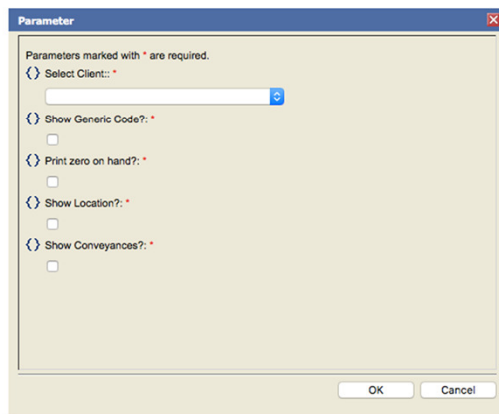
You will see a change however when you do run a report that is BIRT based.

Currently the system will open a new WindX window and you begin to get prompts for the

report parameters. The specific parameters vary, of course, depending on the report. We saw an example of this earlier when we started the OR51 report.

New Reporting Tool

- BIRT report parameters screen will be a change in the look



When the report is BIRT based, what will happen instead is that a browser tab will open.

You will then enter your report parameters, which is still the same process, but the report parameter screens look very different.

BIRT includes report parameter screens as part of the toolset. So the parameter screens in BIRT look very different than those in Maves today. They do accomplish the same purpose and gather the same information so your report can be run. So I don't think anyone will have trouble making the adjustment – they simply look quite different. This is one shown on the slide not an actual one that will ultimately be in the system, but it does show the style of the new parameter screens.



New Reporting Tool

- how the report is delivered to you – how you view and print reports will change
- report viewer used to view in browser

Once you've run a report, you need to view and print reports – so how are the new reports delivered to you?

I've already mentioned a browser tab opens to enter the parameters. The report then runs and produces the required output. Once the report is complete, a web report viewer displays the reports itself in the same browser tab.

Again, we'll take a look in a moment so you can see what this viewer looks like, how you use it, and the main features of it.



New Reporting Tool

- report can easily be sent to PDF
- also export to Word, Excel, or Powerpoint plus the Open Doc equivalents of these – Open Doc is the file format used by Open Office and Libre Office, open source alternatives to MS Office
- export to CSV
- print on paper!

Besides viewing the reports on screen in this viewer, the report output can easily be printed or sent to PDF.

Earlier I mentioned that there are a number of other output formats available.

In addition to PDF, reports can be output to Word, Excel, and Powerpoint formats. Plus all of the Open Doc equivalents of these.

Open Doc is the file format used by Open Office and Libre Office - two open source alternatives to Microsoft Office.

And as I have mentioned they can also be output to CSV.

Of course you can also print the reports to a physical printer and get good old paper output.



New Reporting Tool

- new reports are being written from scratch
- revisiting their overall design, both layout and content
- goal is to better meet the requirements of the 3PL service provider

In addition to these changes that the tools provide, we have made changes ourselves.

Since we are re-writing the reports, we are of course trying to use the new capabilities to improve the look and feel, the readability and usability. So the layouts and content are changing some.

This means trying to strike a balance between keeping them familiar and useful - so we don't get rid of what works and that you need and rely on today. But making the changes to make them more readable and to add the things that may be missing today.

The process will lead to better reports that better meet the requirements of warehouse organizations.



New Reporting Tool

- DEMO
- let's check on our report that we left running
- and take a look at some of the BIRT features we've been talking about

Let's check the time on the report we left running.

Now we're going to run the same report with BIRT to see how it runs there.

Now this report is still a work in process so it will run for all clients and products without any prompts to give me the option to run it for only a subset. So no parameter screen display.

This time, rather than go away and come back later, we're going to wait for the results. We'll just sit here and watch ... and wait ...

By the way, the reason we're waiting is that this won't take 10+ minutes like it did before. That would be embarrassing wouldn't it?

OK. We're done.



New Reporting Tool

- more complex requests will always take more time, but of course this is true with legacy tools as well
- one answer that is true in all cases is difficult
- we expect report changes will generally be faster
- the difference should be greater with more complex requirements
- managing versions and custom will be better

Let's move on now to SCENARIO #2.

The users that come to Maves to make changes to reports now and then.

This is a little trickier to answer, some report requests are very simple in nature while some are more complex. Those that are more complex will take more time, but then it would almost certainly take much more time with our legacy tools as well.

While it is difficult to provide a sweeping answer that will always be true, I do believe that in general, report changes will be made faster. I believe that will be especially true with very complex requirements. These should take less time using the BIRT reporting tool vs traditional development.

The part I like most is that the reports are different from traditional programming in a way that we believe will facilitate managing different versions and customization. We have not yet sat down to work out this part of it yet. But without getting into the technical details, I'd say that the nature of the reports creates an opportunity to improve in this area. As you know, how we deal with custom is an area that we are always looking for opportunities to improve.



New Reporting Tool

- make changes to an existing report
- create a new report from scratch
- changing an existing report is...
 - faster and simpler
 - research and understand where the data for the report is found in the Maves database won't be necessary
 - only need to modify rather than create
 - less time to test and trouble shoot

Finally SCENARIO #3

The users that wants to do report development.

The users that wants to make their own report changes or create reports. There are 2 different things you might do that fall in this category.

The first is that you can take an existing Maves report and make changes so that you have your own customized version of it.

The second thing you can do is that you can create a new report from scratch.

The first approach works best when the report you are looking for is very similar to one we already have.

This approach will generally take much less time and effort because you can leverage something that has been done in the past and is known to work. It will take less time to research and understand where the data for the particular report you are looking for is found in the Maves database,

it will take less time to develop the report itself as you only need to address differences, and

it will take less time to test and trouble shoot since there is less new development that could potentially introduce errors.



New Reporting Tool

- creating a new report from scratch ...
 - may be necessary if no existing report is a good match to build on for you new report
 - the changes are extensive making it more difficult and complex to modify an existing report vs create a new one

SCENARIO #3 continued

The second approach may be necessary when there is not an existing report that will serve as a good place to build on for you new report. Sometimes this is because what you want is not at all like anything else.

Or other times because the changes you want are so extensive that it can actually be more difficult and complex to modify an existing one to do what you want than it is to start from scratch.

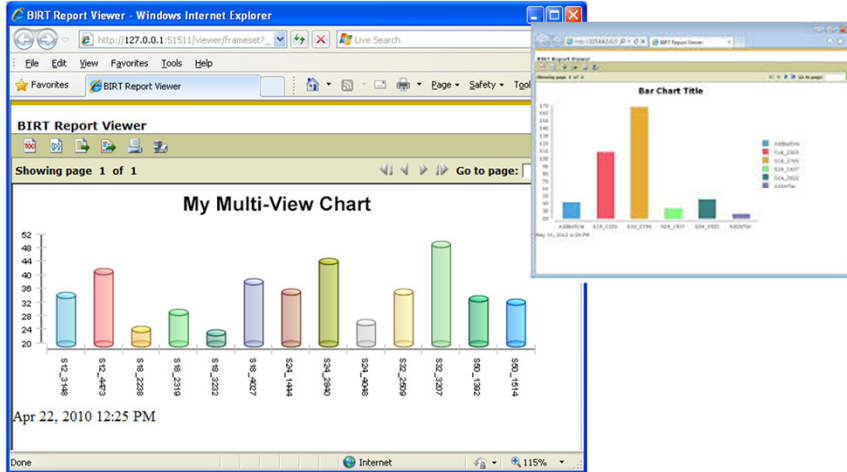
Unless your new report is a vary simple report, this is going to take more time and effort for all of the same reasons we just discussed that make modifying a report the easier way to go.

We'll take a quick look at creating a simple report using BIRT just to give you a sense of how this is done and what is involved. This is largely a technical exercise so we won't take too much time with this.



New Reporting Tool

- DEMO of BIRT





New Reporting Tool

- some final notes ...
 - BIRT reports in MyLogisitcs

These new reports are delivered via the browser. As a result we see this as an opportunity to bring reports back to your clients.

When we introduced MyLogistics - which is basically Highviews for your clients - we provided a richer more functional way for your clients to get access to their information. However it came at the cost of giving up the reports that NetView made available.

We need to do first things first, which is to get all of the basics in place. So this won't likely be until next year, but the BIRT reporting provides the tools to bring this functionality into MyLogistics and thus provide reports to your clients again.

But when we do, the functionality will be better than before as a result of all the improvements provided by BIRT and DB2.

One last point .. they will not be able to create their own reports. I don't think you would want them to. But maybe you can create custom reports for them and deploy them to MyLogisitcs.



New Reporting Tool

Q & A

