

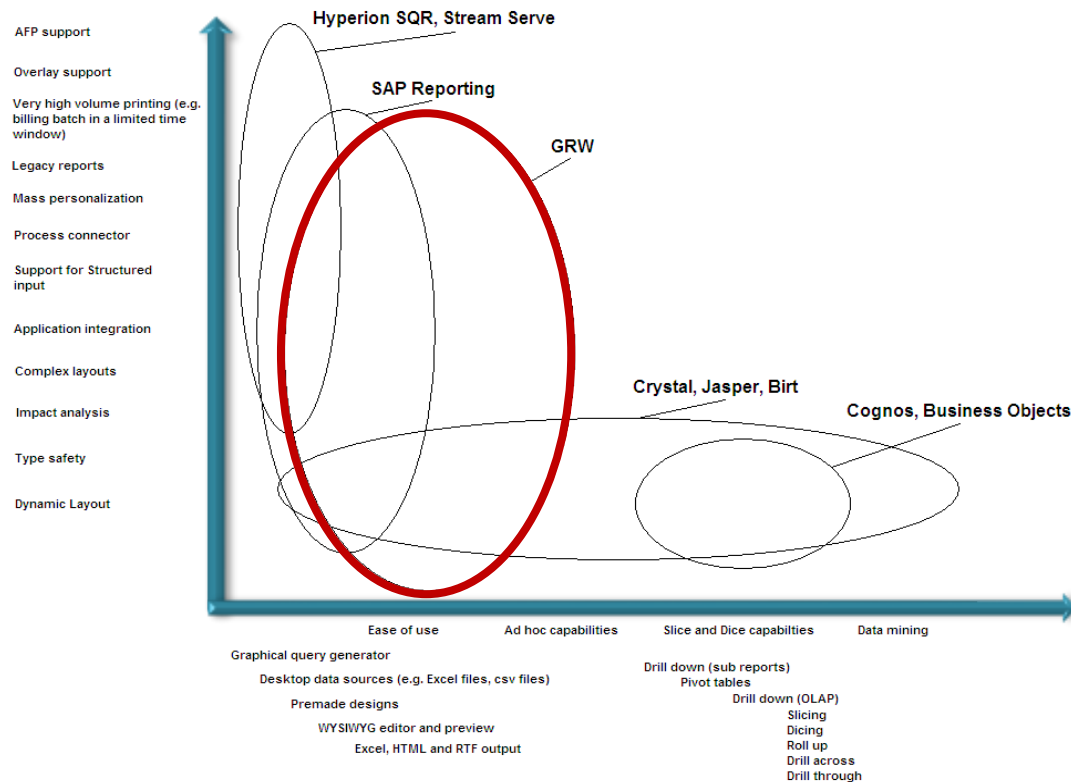


Genero®
report writer

CORPORATE OVERVIEW

March 2015





DEVELOPMENT



Developer



Designer



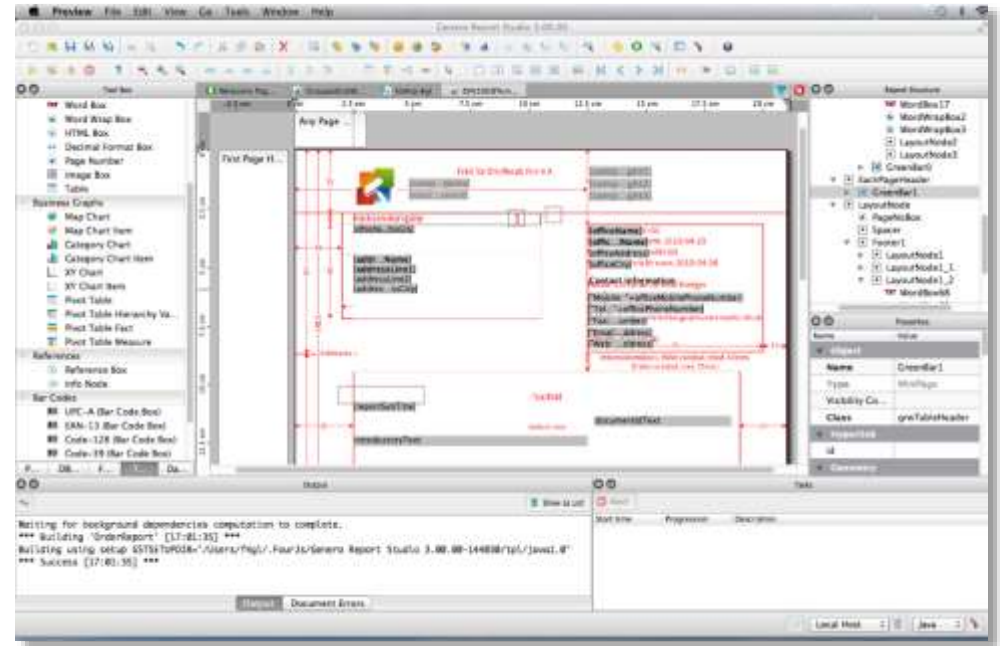
PRODUCTION



End-user



- Enterprise reports
- Streaming architecture
- Scalable
- Dynamic layouting
- API driven
- Template driven
- Maintainable



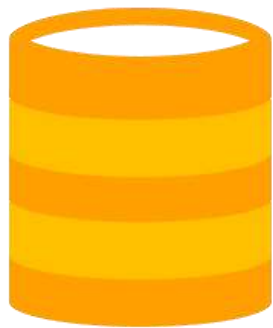
API Driven Reports



Report Designer



Report Designer Templates



DATABASE



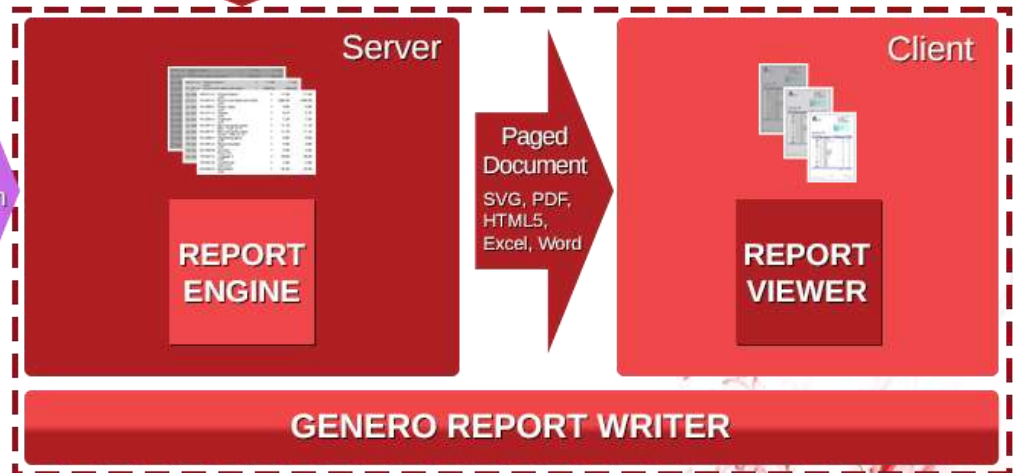
SQL

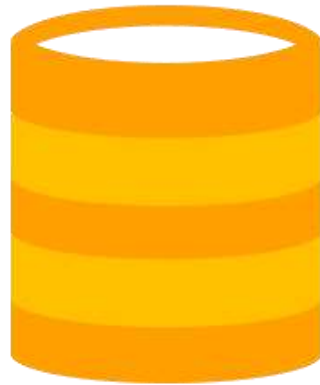


SERVER



XML
Datastream





DATABASE



Java, C#,
PHP, Cobol,
4GL

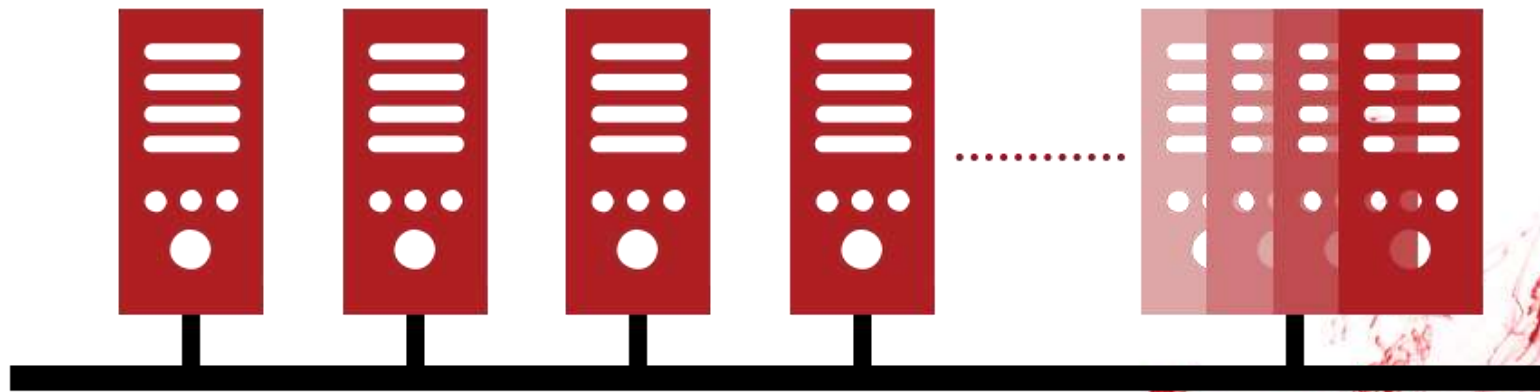
LANGUAGE



REPORT ENGINE



REPORT VIEWER



➤ Streaming architecture

- Immediate results
 - No temp tables
 - Real-time data
- Fast throughput
 - Simultaneous execution of multiple selects
 - Fast merging of multiple data sources
- Very large reports
 - Reduced resource consumption
 - Uses less disk space
 - Less memory
 - Optimised report management



➤ Dynamic layouting

- One report fits all
- Adapts to different:
 - Fonts
 - Field values
 - International languages
 - Paper sizes and orientation



The screenshots show the 'Customer Order' report in four different configurations:

- Top Left:** Landscape orientation, standard field values.
- Top Right:** Portrait orientation, standard field values.
- Bottom Left:** Landscape orientation, with a highlighted field value of 1660.15.
- Bottom Right:** Portrait orientation, with a highlighted field value of 1660.15.

The reports include a header with the 'four.js' logo and contact information, followed by a table of items with columns for Item ID, Description, Quantity, Unit Price, and Total. The layout adapts to the page size and the specific data being presented.

➤ API driven

➤ Java

- Supports J2SEE & J2EE,
- Supports JAXB,
(Schema generation and marshalling)

➤ .Net

- Supports Xsd.exe/XMLSerializer,
(schema generation and marshalling)

➤ PHP

- BAM data source generation.



COBOL 4GL



➤ API driven

➤ 4GL

- Compatibility mode,
- Supports rdd/xsd,
(via fglcomp – build rdd)
- Marshalling via REPORT object.

➤ Cobol

- Compatibility mode,
- BAM data source generation.

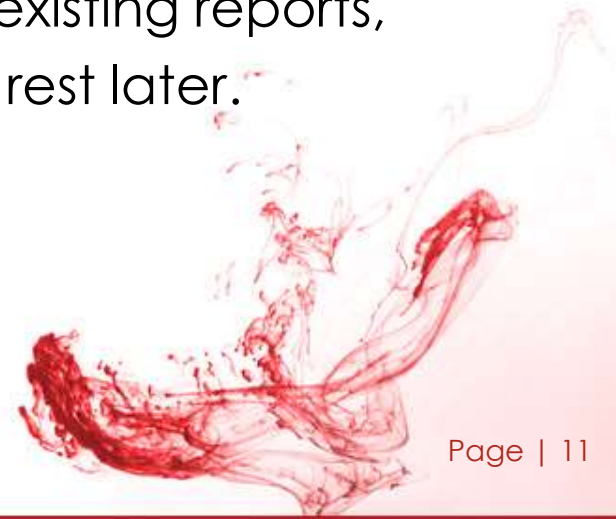


COBOL 4GL



Cobol and 4GL compatibility modes

- **Respects existing report code**
 - Same code, new output formats.
- **New output formats**
 - PDF,
 - Browser,
 - MS-Excel® and MS-Word®.
- **Old & new reports co-exist, sharing same output formats**
 - Simplify & reduce existing code,
 - Eases migration, works immediately with existing reports,
 - Migrate priority reports first, embellish the rest later.



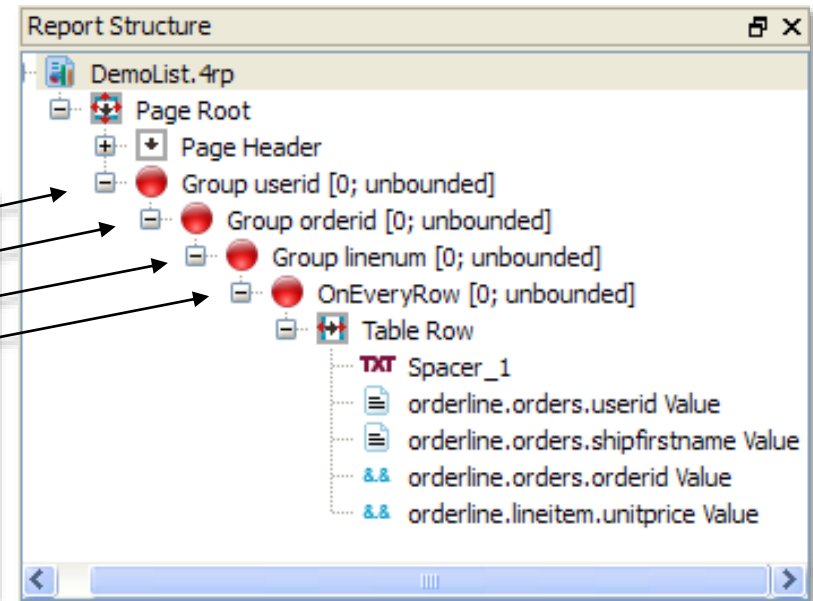
➤ Schema from 4GL code: REPORT instruction used

- RDD schema produced by the compiler (fglcomp)
- PRINT, PRINTX variable
- Iterators and conditional handled (FOR, FOREACH, IF...)
- ORDER BY

```

199
200 REPORT report_all_orders( orderline )
201 DEFINE
202     orderline OrderType,
203     lineitemprice LIKE lineitem.unitprice,
204     overalltotal LIKE orders.totalprice,
205     ordertotal LIKE orders.totalprice
206
207 ORDER EXTERNAL BY orderline.orders.userid, orderline.orders.orderid, orderline.lineitem.linenum
208
209 FORMAT
210     FIRST PAGE HEADER
211         LET overalltotal = 0
212
213     BEFORE GROUP OF orderline.orders.orderid
214         LET ordertotal = 0
215
216     ON EVERY ROW
217         LET lineitemprice = orderline.lineitem.unitprice * orderline.lineitem.quantity
218         LET overalltotal = overalltotal + lineitemprice
219         LET ordertotal = ordertotal + lineitemprice
220         PRINT orderline.*, lineitemprice, overalltotal, ordertotal
221 END REPORT
222

```



fglcomp –build-rdd OrderReport.4gl

➤ Schema from Java « POJO »:

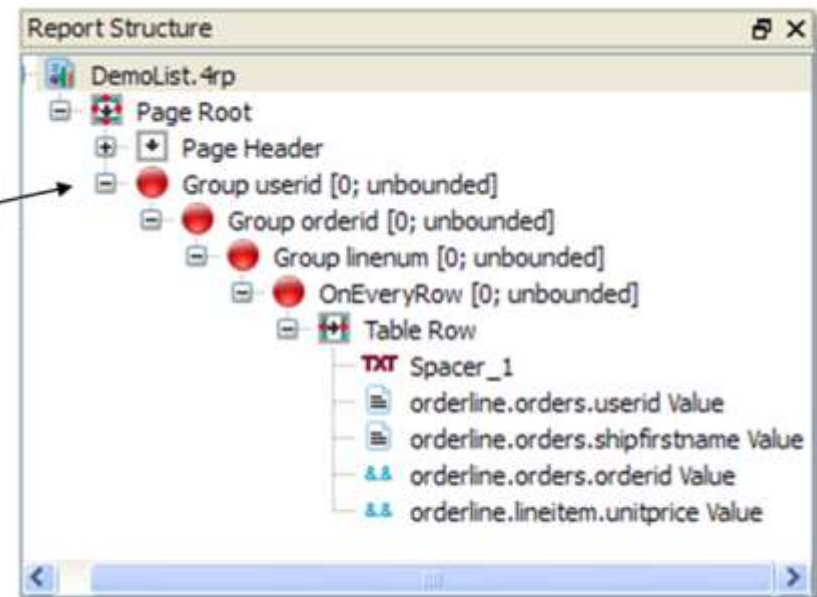
- XML-Schema produced by the schema compiler (schemagen)
- Collections are recursively iterated
- Lazy retrieval supported via Iterator interface (hasNext()/next())

```
*import java.lang.reflect.Field;

@XmlRootElement(name = "Report")
public abstract class OrderReportModel
{
    protected Field[] fields;
    private Row nextRow;
    private double overalltotal;
    private double usertotal;
    private double ordertotal;
    String currentUserId;
    int currentOrder;
    int currentLine;

    @XmlElement(required = true)
    public PivotControlBlock controlBlock;
    @XmlElement(name = "Group")
    AbstractCollection<User> users = new AbstractCollection<User>()
    {
        public Iterator<User> iterator()
        {
            return new Iterator<User>()
            {
                public boolean hasNext()
                {
                    return nextRow != null;
                }

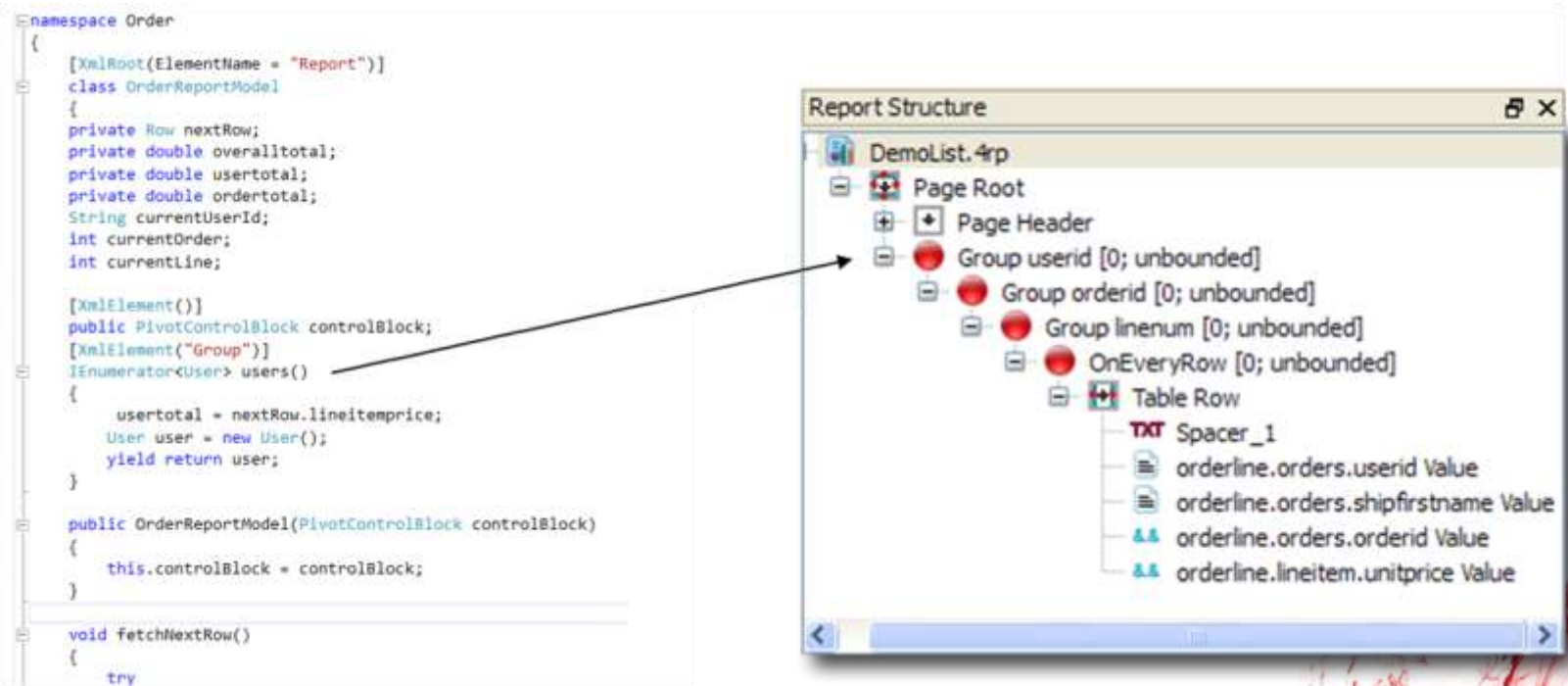
                public User next()
                {
                    usertotal = nextRow.lineitemprice;
                    User user = new User(OrderReportModel.this);
                    return user;
                }
            };
        }
    };
}
```



schemagen OrderReportModel

➤ Schema from C# object:

- XML-Schema produced by the schema compiler (Xsd.exe)
- Collections are recursively iterated
- Lazy retrieval supported via Iterator using coroutines (yield)



```
namespace Order
{
    [XmlRoot(ElementName = "Report")]
    class OrderReportModel
    {
        private Row nextRow;
        private double overalltotal;
        private double usertotal;
        private double ordertotal;
        String currentUserId;
        int currentOrder;
        int currentLine;

        [XmlElement()]
        public PivotControlBlock controlBlock;
        [XmlElement("Group")]
        IEnumerable<User> users()
        {
            usertotal = nextRow.lineitemprice;
            User user = new User();
            yield return user;
        }

        public OrderReportModel(PivotControlBlock controlBlock)
        {
            this.controlBlock = controlBlock;
        }

        void fetchNextRow()
        {
            try

```

Report Structure

- DemoList.4rp
 - Page Root
 - Page Header
 - Group userid [0; unbounded]
 - Group orderid [0; unbounded]
 - Group linenum [0; unbounded]
 - OnEveryRow [0; unbounded]
 - Table Row
 - TEXT Spacer_1
 - orderline.orders.userid Value
 - orderline.orders.shipfirstname Value
 - orderline.orders.orderid Value
 - orderline.lineitem.unitprice Value

xsd OrderReportModel

➤ **Schema from BAM diagram:**

- XML-Schema produced by the schema generator

```
class Account extends SerializableRecord {
    public $account_userid;
    public $account_email;
    public $account_firstname;
    public $account_lastname;

    public function serialize(GreXMLConnector $greXMLConnector) {
        $fglDb = new FGLDatabase();
        $query = "

SELECT    account.userid as account_userid,
          account.email as account_email,
          account.firstname as account_firstname,
          account.lastname as account_lastname
FROM      account
WHERE     1=1";

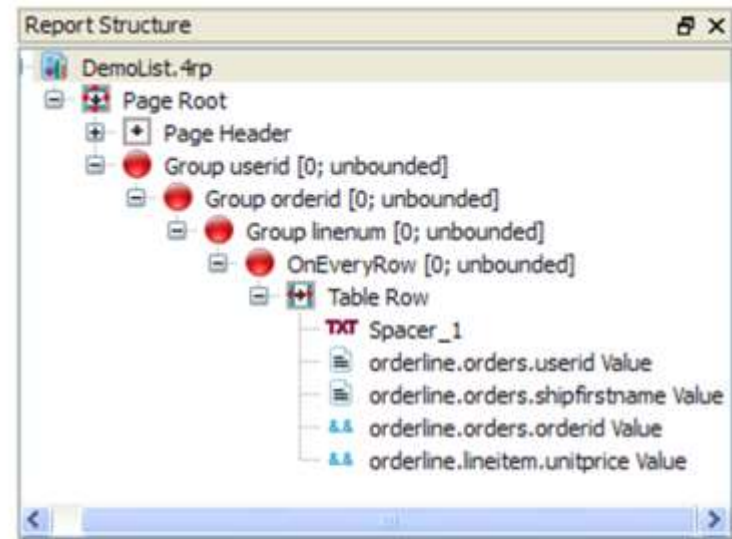
        $fglDb->runQuery($query);
        while ($row = $fglDb->fetch()) {
            $this->setAttributes($row);
            parent::serialize($greXMLConnector);
        }

        protected function serializeChildren(GreXMLConnector $greXMLConnector) {
            $child = new Orders($this->account_userid);
            $child->serialize($greXMLConnector);
        }
    }

class Orders extends SerializableRecord {
    public $orders_orderid;
    public $orders_userid;
    public $orders_orderdate;
    public $orders_totalprice;
    private $query;

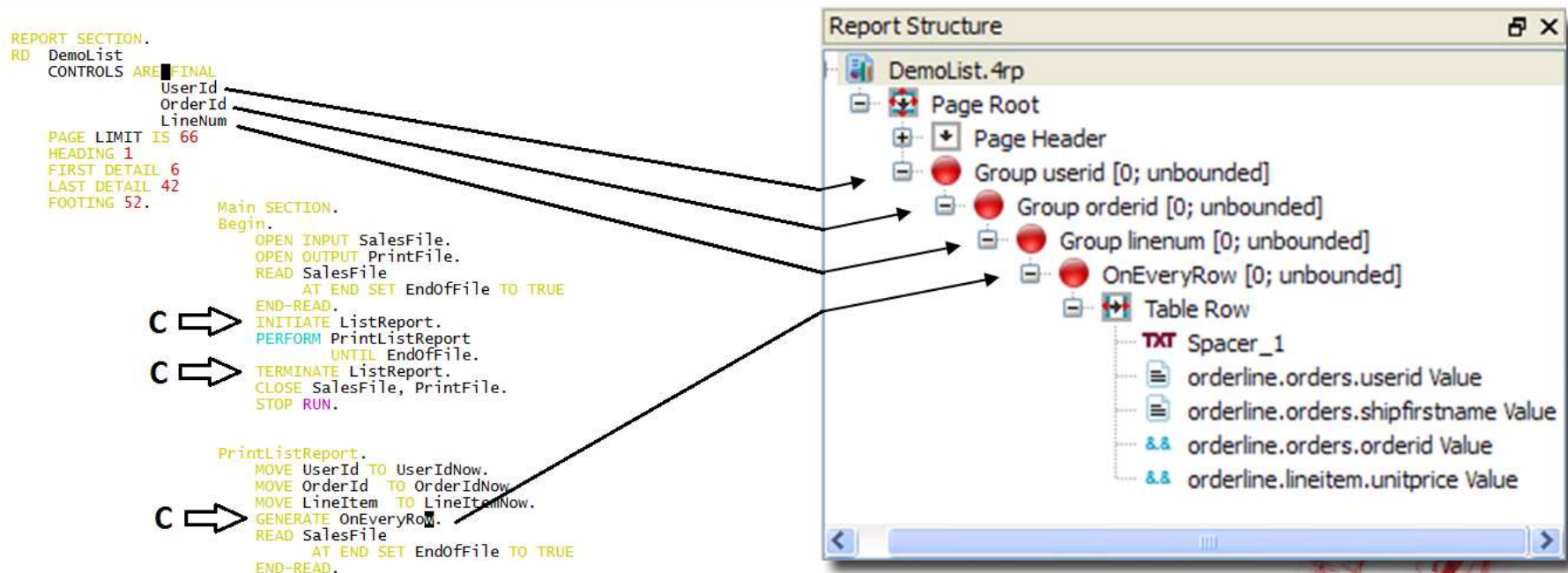
    public function __construct($account_userid) {
        $this->query = "

SELECT    orders.orderid as orders_orderid,
          orders.userid as orders_userid,
          orders.orderdate as orders_orderdate,
          orders.totalprice as orders_totalprice
FROM      orders
WHERE     1=1
          AND orders.userid='".$account_userid.'"
";
    }
}
```

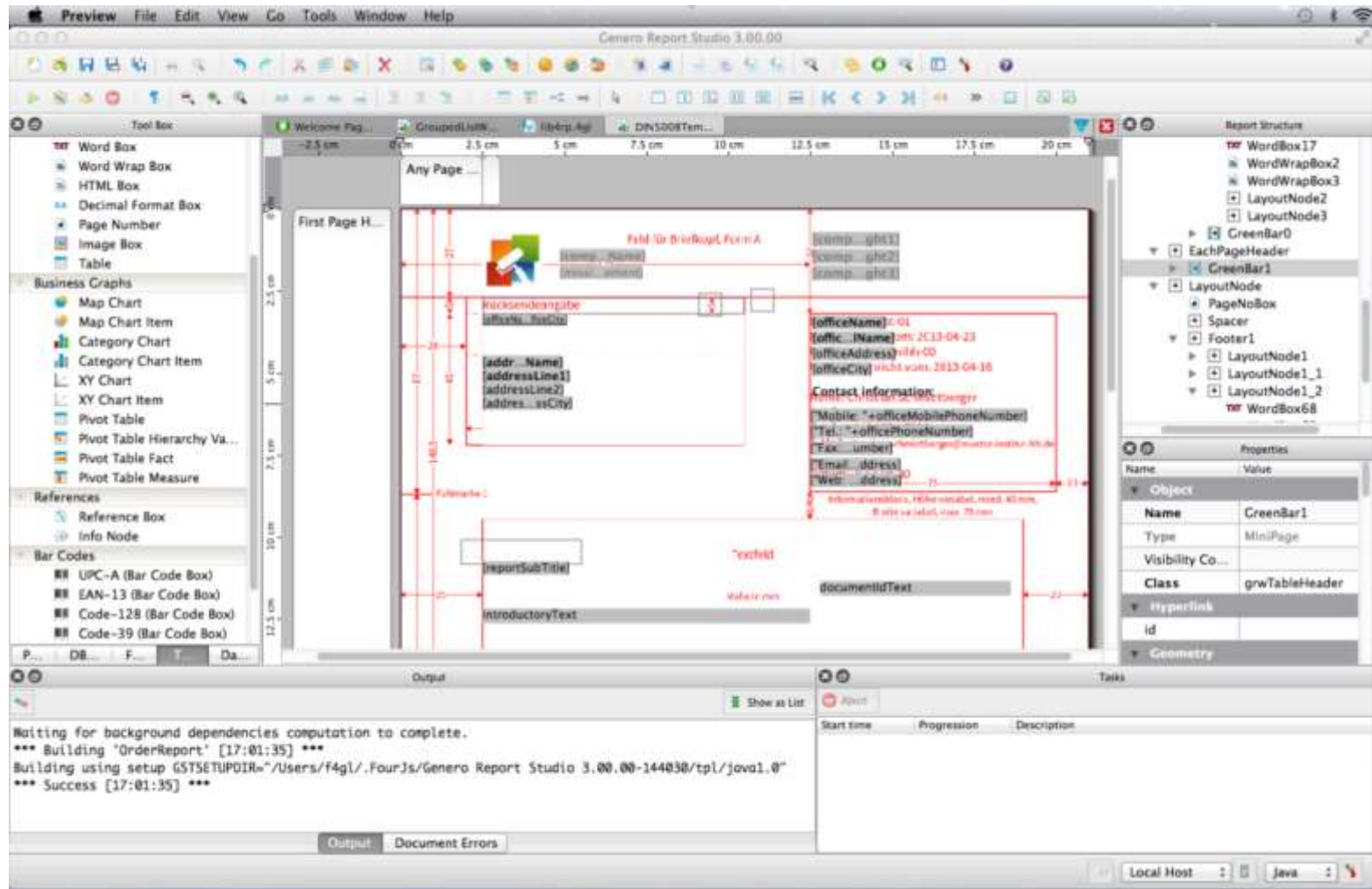


➤ Schema from COBOL code: REPORT SECTION used

- XSD schema produced by schemagen compiler
- INITIATE, GENERATE and TERMINATE instructions remapped to C-Functions
- Groups triggers based on CONTROLS



schemagen OrderReport.cbl



➤ **Template driven**

- Create report design from templates
 - Design (.4rp) generated from:
 - a template and
 - a data schema.
 - Support for JAXB (schema generation and marshalling).
- Used at design time
 - Generated design can be saved for further mods.
- Command line interface to create the design (.4RP)
- Used at runtime
 - Internally generated design used at runtime.



➤ Schema based template editing

- Predefined schemas for specific report classes,
- Type safe editing of templates via GRW,
- Easy conversion of a report instance into a template.

➤ High flexibility

- **Template field** toolbox object for creation of document objects based on fields,
- Placeholder substitution,
- Support for all types of data representation (e.g. from primitives, tables, pivot tables, charts, etc.),
- Support for groups and typical layouts based on groups,
- Structure of actual data and structure of data in template can differ.



Field für Briefkopf, Form A
HARRIS PAINTING & DECORATING
WE PAINT WITH PASSION

GUARANTEED QUALITY
HIGHLY EXPERIENCED
FULLY INSURED

Painting & decorating, 4 Main Street, Brisbane Central QLD 4001

Fred Bloggs
177 Elm Crescent
SWH BAF London

David Harris & Decorating
David Harris: 0624-04-23
Andrew: 0624-04-23
Email: david@harris-painting.com.au
Web: www.harris-painting.com.au

Contact information:
David Harris: 0624-04-23
Andrew: 0624-04-23
Email: david@harris-painting.com.au
Web: www.harris-painting.com.au

Site: Seaside Apartment House Project

Dear Mr. Bloggs,

according to your order of 06/24/2014 please receive herewith our invoice 5 for the seaside apartment house project.

Code	Description	Quantity	Price
5	1 FU-004-A	1	122.00
5	2 FU-008-A	1	129.00
5	3 FU-011-A	1	27.00
5	4 SU-001-A	1	1.20
5	5 SU-001-D	1	1.20
5	6 SU-004-A	1	7.20
5	7 SU-005-A	1	0.15
5	8 SU-005-C	1	0.15
5	9 SU-005-B	1	0.15
5	10 SU-005-A	1	9.90
5	11 SU-002-A	1	4.00
5	12 SU-009-A	1	4.00
5	13 SU-008-A	1	0.80
5	14 SU-010-A	1	3.50
5	15 SU-003-A	1	4.35
5	16 SU-011-A	1	8.10
5	17 AR-011-A	1	17.00
5	18 AR-004-A	1	117.00
5	19 AR-017-A	1	130.00
5	20 AR-012-A	1	29.00
5	21 TR-005-A	1	45.00
5	22 TR-007-A	1	38.00
5	23 TR-006-A	1	32.00
5	24 TR-009-A	1	31.00
5	25 TR-003-A	1	17.00
5	26 TR-012-A	1	11.90
5	27 TR-001-A	1	0.90

Company location:
Harris painting & decorating
Brisbane Central
QLD 4001

Bank information:
Bank of Queensland
Account No. 36238438
BSB: 324-001
IBAN: AU45 2454 3443 43
BIC: BQEN333XXX

Management:
David Harris
Tel No. 0624-04-23
Oid: K0230523

Painting & decorating, 4 Main Street, Brisbane Central QLD 4001

Fred Bloggs
177 Elm Crescent
SWH BAF London

David Harris & Decorating
David Harris: 0624-04-23
Andrew: 0624-04-23
Email: david@harris-painting.com.au
Web: www.harris-painting.com.au

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5	5 SU-001-D	1	1.20
5	6 SU-004-A	1	7.20
5	7 SU-005-A	1	0.15
5	8 SU-005-C	1	0.15
5	9 SU-005-B	1	0.15
5	10 SU-005-A	1	9.90
5	11 SU-002-A	1	4.00
5	12 SU-009-A	1	4.00
5	13 SU-008-A	1	0.80
5	14 SU-010-A	1	3.50
5	15 SU-003-A	1	4.35
5	16 SU-011-A	1	8.10
5	17 AR-011-A	1	17.00
5	18 AR-004-A	1	117.00
5	19 AR-017-A	1	130.00
5	20 AR-012-A	1	29.00
5	21 TR-005-A	1	45.00
5	22 TR-007-A	1	38.00
5	23 TR-006-A	1	32.00
5	24 TR-009-A	1	31.00
5	25 TR-003-A	1	17.00
5	26 TR-012-A	1	11.90
5	27 TR-001-A	1	0.90

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IBAN: AU45 2454 3443 43
BIC: BQEN333XXX

Management:
David Harris
Tel No. 0624-04-23
Oid: K0230523

Order List Grouped by Customers and Orders					3
Orderid	Username	Quantity	Unitprice		
				Carried forward:	1,173.50
denis				Carried forward:	112.00
3.0	02/29/2014			Carried forward:	112.00
3	4 EN-004-A	1	87.00		
Total of 3.0:					209.00
Total of denis:					209.00
dupont					
1.0	02/29/2014				
	1 FU-001-A	1	1,490.00		
	2 FU-006-A	1	129.00		
	3 SU-005-D	1	1.30		
	4 SU-002-C	1	34.00		
	5 SU-010-A	1	3.50		
	6 SU-003-B	1	4.35		
	7 EN-010-A	1	18.00		
Total of 1.0:					1,690.15
Total of dupont:					1,690.15
				Total until this point:	2,980.85

Order List Grouped by Customers and Orders					
Username	Phone	Quantity	Unitprice		
				Carried forward:	1,061.50
denis					
3.0	02/29/2014				
	1 FU-005-A	1	17.00		
	2 FU-009-A	1	22.00		
	3 AR-014-A	1	73.00		
	4 EN-004-A	1	97.00		
Total of 3.0:					209.00
Total of denis:					209.00
dupont					
1.0	02/29/2014				
	1 FU-001-A	1	1,490.00		
	2 FU-009-A	1	129.00		
	3 SU-005-D	1	1.30		
	4 SU-002-C	1	34.00		
	5 SU-010-A	1	3.50		
	6 SU-003-B	1	4.35		
	7 EN-010-A	1	18.00		
Total until this point:					1,690.15
Total until this point:					1,690.15
				Total until this point	2,980.85
					3 of 1

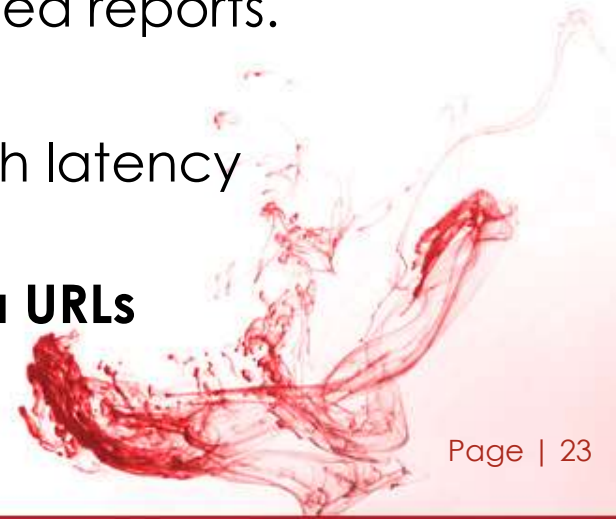


➤ Maintainability

- Manage large numbers of reports
- Separation of report logic from presentation
 - Isolate database from external providers
 - Redecorate existing reports
- Version control
- Schema error checking
 - Type safe expressions
 - Schema modifications
 - Design, rather than runtime time discovery
- Template driven



- **Pixel exact rendering**
 - Exact output as GRV,
 - Text is declared as strings keeping the document small.
- **Creation of WOFF fonts on-the-fly**
 - Supports all fonts seen by GRE (Type1 and TrueType),
 - Fonts are cached and can be shared between documents,
 - Good performance also for Asian fonts.
- **Streaming (progressive) viewing and printing**
 - Support of random navigation in unfinished reports.
- **Support for very large documents**
 - Works well on low bandwidth and/or high latency connections.
- **Reports can be bookmarked and shared via URLs**



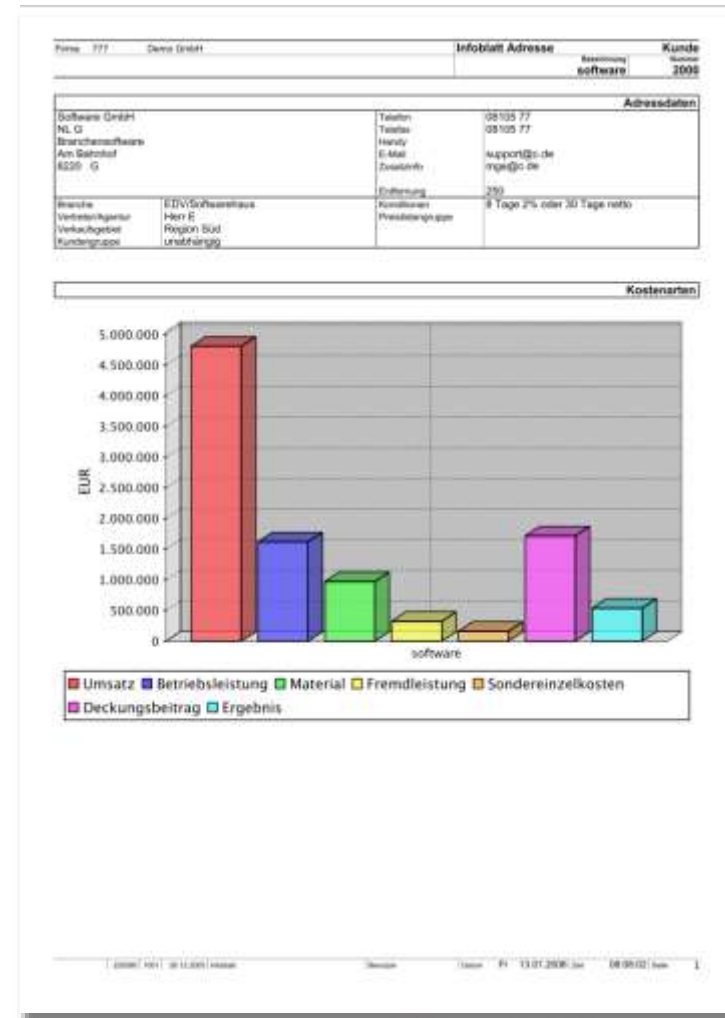
Browser based report viewer - samples

- [Calendar](#)
- [CategorychartByAreasAndCategories](#)
- [CategorychartRevenueByCategoriesAndCustomers](#)
- [CategorychartRevenueByCustomersAndCategories](#)
- [DynamicPivotTable](#)
- [GenericList](#)
- [GroupedTableDemo](#)
- [ListDemo](#)
- [MapchartRevenueByCategories](#)
- [MapchartRevenueByCustomers](#)
- [MapchartRevenueByCustomersAndCategories](#)
- [MasterReport](#)
- [OrderLabels](#)
- [OrderList](#)
- [OrderReport](#)
- [OrderReportASCII](#)
- [OrderReportASCII4](#)
- [OrderStock](#)
- [StaticPivotTable](#)
- [TableDemo](#)
- [XYChart](#)
- [Chinese Report](#)



➤ Report Engine

- Graphic rendering of text reports
- Quick and easy data layout
- Advanced layout
 - Position & size data elements
 - Avoid data truncation
 - Translation & internationalization
 - Design single report for multiple paper sizes



➤ Report Engine

- XML streamed output
- Low memory consumption
- “Print-as-you-go”
 - Rapid 1st, 2nd, 3rd... nth page delivery
- Print very large reports
 - No need for temp files
 - Merge data/blobs from multiple sources
- Relative or absolute positioning of elements
 - Headers/footers on page breaks
 - Horizontal/vertical box propagation



Four J's Development Tools
1, rue de Berne
67000 Schiltigheim
Phone: +33 (0) 3 88 18 61 20
FAX: +33 (0) 3 88 18 61 21
Web: <http://www.4js.com>

Customer Order: 3005
Steve Miller
251 O Connor Ridge Blvd.
Suite 345
75006 Irving TX
United States

Customer Order

Order Date: 02/05/2005 Order No.: 3 Origin: MTC

Item ID	Description	Quantity	Unit Price	Total
AR-011-A	Picture frame 1	1	17.00	17.00
PU-001-A	Board room table and chairs	1	1480.00	1480.00
SU-009-A	Paper clip	1	0.80	0.80
SU-011-A	Stapler	1	6.10	6.10
SU-004-A	Clipboard	1	7.20	7.20
SU-001-C	Blue and green pens	1	11.10	11.10
SU-001-F	Blue and green pens	1	11.10	11.10
SU-006-A	Magnifying glass	1	9.90	9.90
SU-007-A	Measuring tape	1	4.80	4.80
SU-003-B	Scissors	1	4.35	4.35
TR-007-A	Luggage 2	1	38.00	38.00
TR-001-B	Toothbrush	1	2.90	2.90
EH-002-A	Sockball	1	32.00	32.00
Total price:				\$ 1634.85

Printed with Genero Report Writer - version 6.00

Page 1

➤ Hand coded data sources

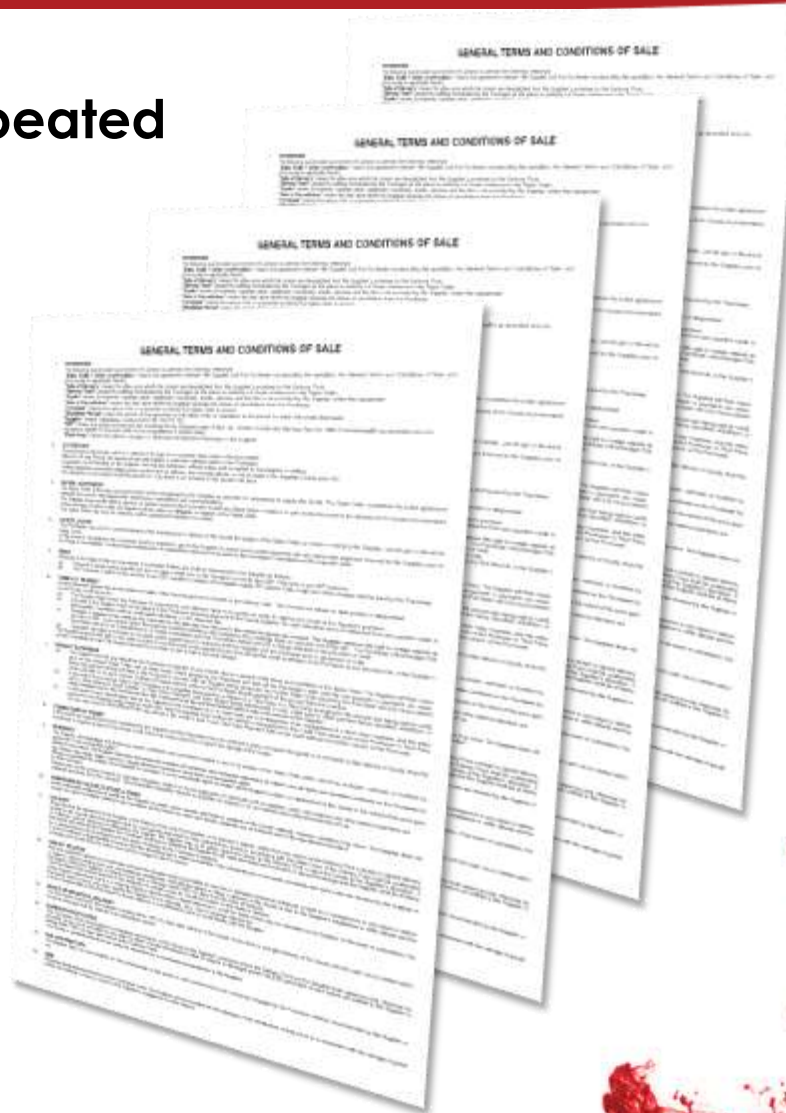
- Allows reusing existing objects (e.g. JPA/Hibernate classes)
- Enables custom data sources (e.g. web service).
- Requires schema-from-code utility and marshaller to be workable (Available for 4GL, Java and .Net).

➤ Generated data sources (via. BAM)

- Abstracts language specific details
- Works for languages without schema compiler (e.g. PHP, C, COBOL)
- Enables the creation of identical data sources in different languages.



➤ **Efficient printing of repeated verso pages**



Enterprise class reports – output formats

➤ Output formats:

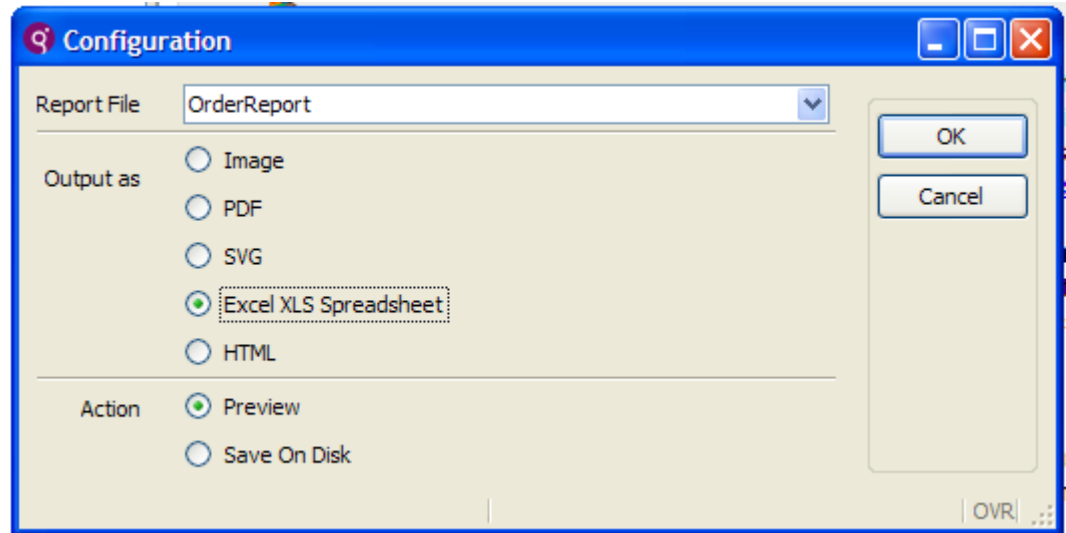
Excel

Word

PDF

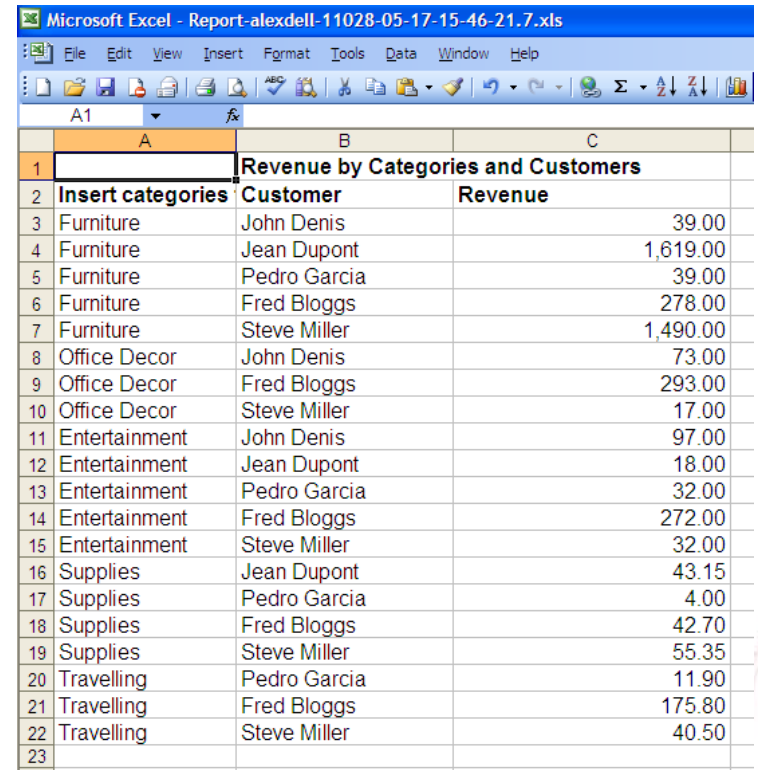
HTML

SVG



➤ Excel output

- Output any REPORT to Excel
- Design Excel reports from Report Designer
- Graphical elements rendered as images



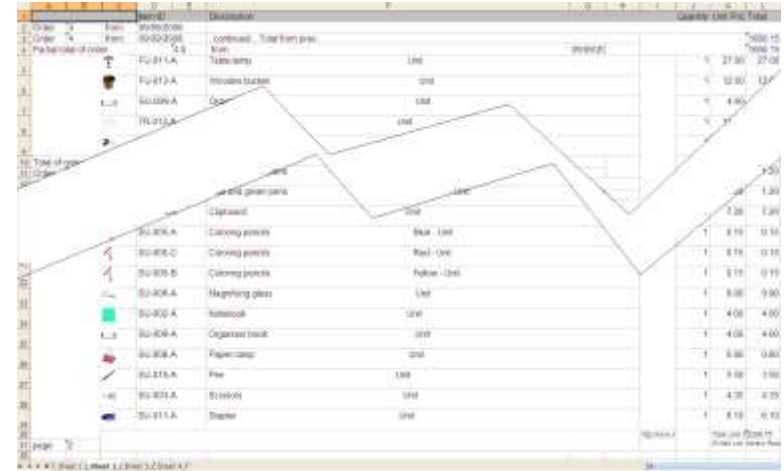
Microsoft Excel - Report-alexdel1-11028-05-17-15-46-21.7.xls

	A	B	C
1		Revenue by Categories and Customers	
2	Insert categories	Customer	Revenue
3	Furniture	John Denis	39.00
4	Furniture	Jean Dupont	1,619.00
5	Furniture	Pedro Garcia	39.00
6	Furniture	Fred Bloggs	278.00
7	Furniture	Steve Miller	1,490.00
8	Office Decor	John Denis	73.00
9	Office Decor	Fred Bloggs	293.00
10	Office Decor	Steve Miller	17.00
11	Entertainment	John Denis	97.00
12	Entertainment	Jean Dupont	18.00
13	Entertainment	Pedro Garcia	32.00
14	Entertainment	Fred Bloggs	272.00
15	Entertainment	Steve Miller	32.00
16	Supplies	Jean Dupont	43.15
17	Supplies	Pedro Garcia	4.00
18	Supplies	Fred Bloggs	42.70
19	Supplies	Steve Miller	55.35
20	Travelling	Pedro Garcia	11.90
21	Travelling	Fred Bloggs	175.80
22	Travelling	Steve Miller	40.50
23			



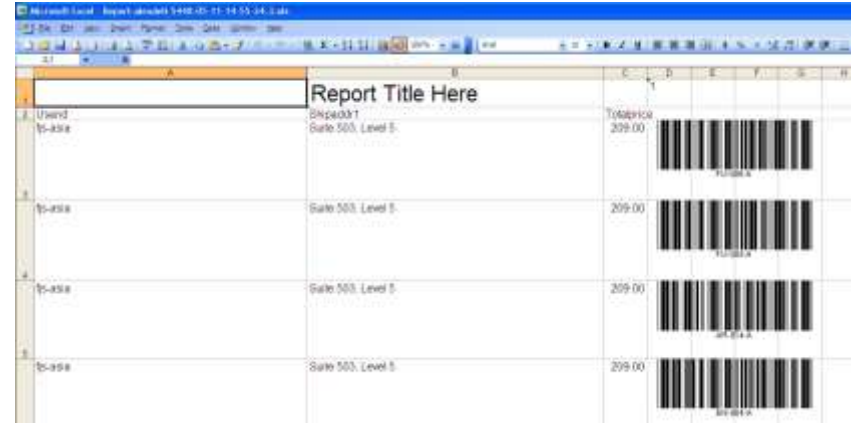
➤ Excel output

- Output any REPORT to Excel
- Design Excel reports from Report Designer
- Graphical elements rendered as images



➤ Excel output

- Output any REPORT to Excel
- Design Excel reports from Report Designer
- Graphical elements rendered as images



	A	B	C	D	E	F	G	H
		Report Title Here						
1	Upard	BHP4031	Suite 503, Level 5	T008PH00	209.00	Barcode	Barcode	
2	Ts-838	Suite 503, Level 5		209.00	Barcode	Barcode		
3	Ts-838	Suite 503, Level 5		209.00	Barcode	Barcode		
4	Ts-838	Suite 503, Level 5		209.00	Barcode	Barcode		



Enterprise class reports – output formats

MS Word

Report: rpg-645-10-07-11-25-02-0.rtf - Microsoft Word

Office Supplies

Office Supplies
4 Avenue de Paris
78000 Versailles
Phone: +33 (0) 1 23 45 67 89
FAX: +33 (0) 1 23 45 67 80

Customer Code: bloggs
Fred Bloggs
177 Elms Crescent
SW4 8AF London
United Kingdom

Customer Order

Order Date: 01/25/2011 Order No.: 5 Origin: MTC

Item ID	Description	Quantity	Unit Price	Total
Order 5 from 01/25/2011				
Partial total of order 5.0 from 01/25/2011 :				
FU-004-A	Grandfather clockUnit	1,00	122.00	122.00
FU-008-A	Office chairUnit	1,00	129.00	129.00
FU-011-A	Table lampUnit	1,00	27.00	27.00
SU-001-A	Blue and green pensBlue - Unit	1,00	1.20	1.20
SU-001-D	Blue and green pensGreen - Unit	1,00	1.20	1.20
SU-004-A	ClipboardUnit	1,00	7.20	7.20
SU-005-A	Coloring pencilsBlue - Unit	1,00	0.15	0.15



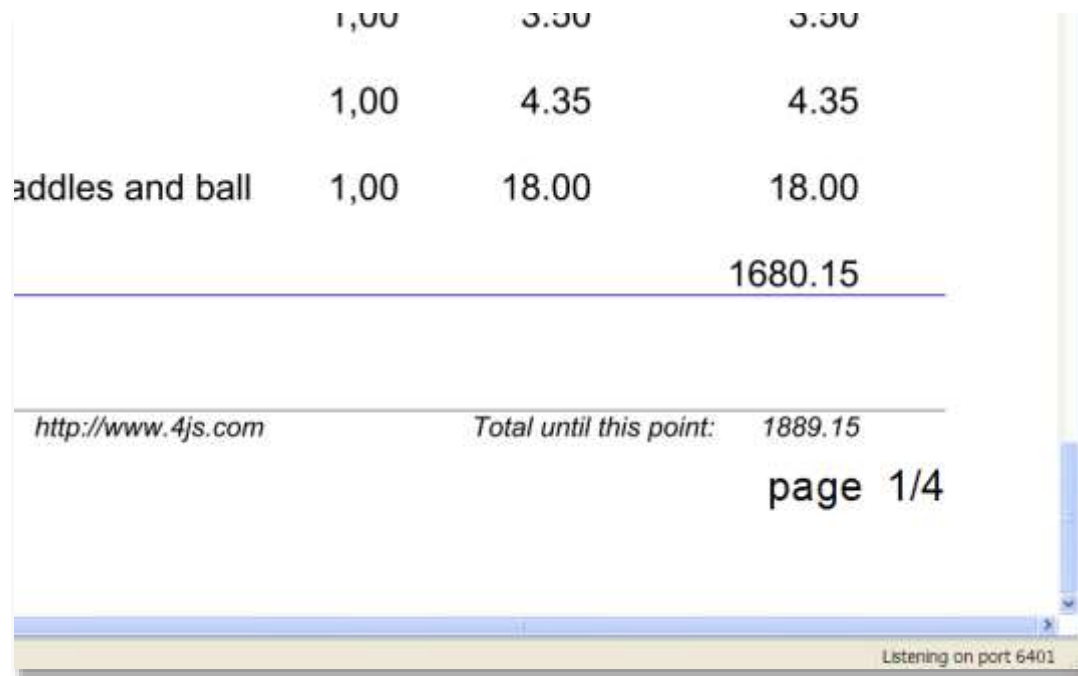
Steve Miller

A donut chart representing the budget distribution for Steve Miller. The chart is divided into five segments: a large blue segment for Furniture (1,400), a small green segment for Entertainment (32), a small red segment for Office Decor (17), a small yellow segment for Supplies (55.38), and a small purple segment for Travelling (40.8). Each segment is connected by a line to a text box containing its category and value.

Category	Value
Entertainment	32
Furniture	1,400
Office Decor	17
Supplies	55.38
Travelling	40.8

➤ Page 'n of M'

- 'M' page count for all pages or sub-ranges
- Display total number of pages 'M' on each page

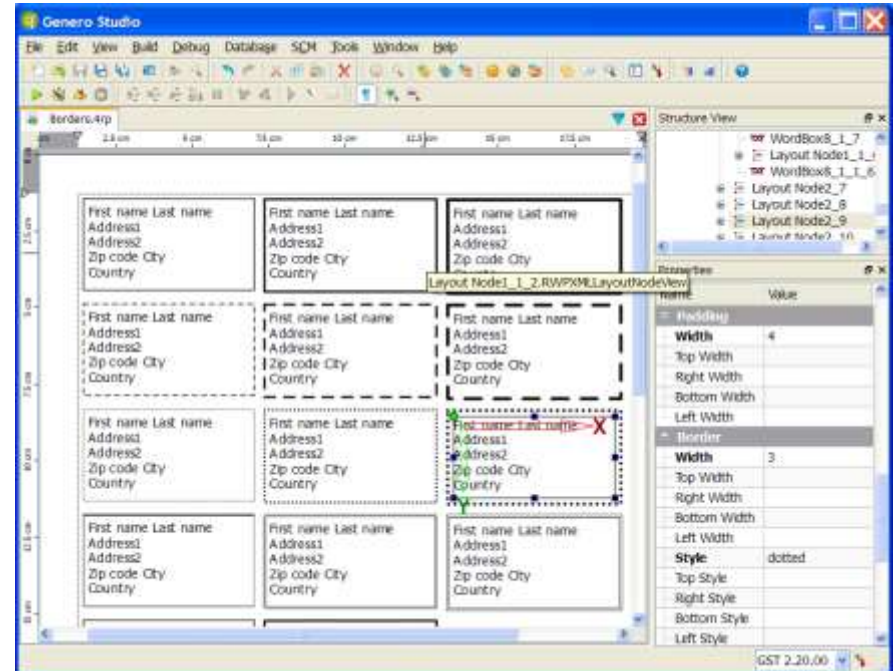


	1,00	3.30	3.30
	1,00	4.35	4.35
saddles and ball	1,00	18.00	18.00
			1680.15
<hr/>			
http://www.4js.com	Total until this point:	1889.15	
		page 1/4	

Listening on port 6401

➤ Borders and padding

- Border style & thickness
- Padding:
 - Defines outer space
- Marging:
 - Defines inner space



Enterprise class reports – data sources

➤ XML data sources

XML as data

XML schema(or DTD) as report data definition

➤ Report Designer

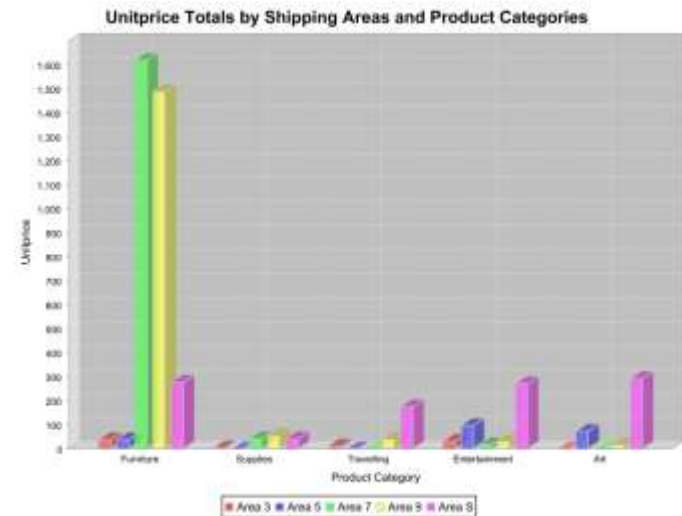
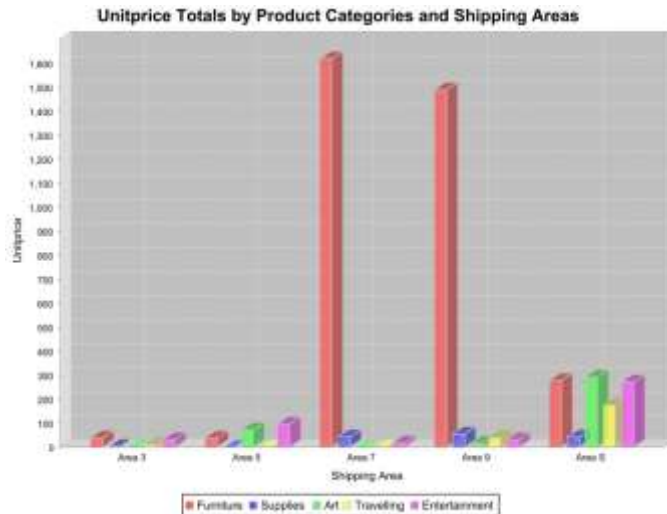
Dataview shows XML schema

Report design based on XML schema

➤ Third party product integration will use XML data sources



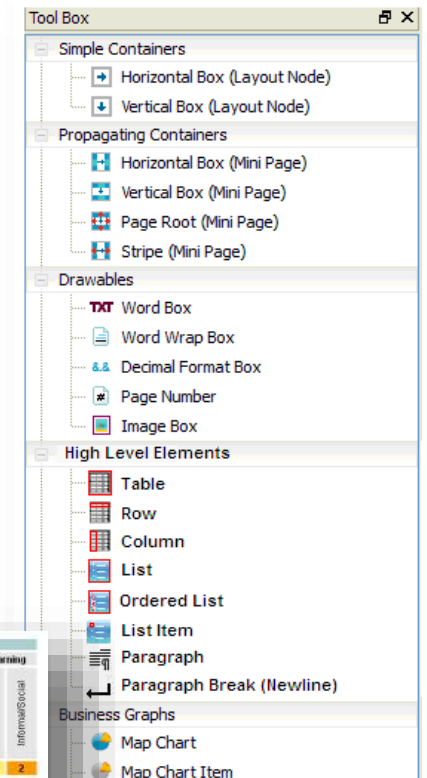
- Charts with multiple dimensions,
- Table with fixed column role types (measure & dimension),
- Table rows known as 'facts'.



- Table object manipulates columns, lines and cells for easier formatting and alignment

	Header A	Header B			Header C
	Header 1	Header 2	Header 3	Header 4	Header 5
L11	L12	L13	L14	L15	L16
L21	L22	L23	L24	L25	L26
L31	L32	L33	L34	L35	L36
L41	L42	L43	L44	L45	L46
L51	L52	L53	L54	L55	L56

	Overall	Environments			Factors									
	McBassi People Index	Work	Leadership	Learning	Accountability	Commitment to Employees	Conditions	Hiring Practices	Job Design	Processes	Behaviors	Communications	Formal	Informal/Social
XYZ Corporation	3	3	3	2	3	3	3	2	3	2	3	3	3	2
Business Unit X	3	3	4	2	3	4	3	2	4	3	4	3	3	2
Sales Unit 1	5	5	5	4	5	5	5	3	5	4	5	5	4	4
Sales Unit 2	3	3	4	2	3	4	3	2	4	3	4	4	3	3
Sales Unit 3	2	2	2	1	2	3	2	1	3	3	3	3	3	1
Business Unit Y	2	2	3	2	3	3	2	3	3	2	3	3	3	2
Call Center 1	4	4	5	3	5	4	4	2	4	3	5	5	4	3
Call Center 2	2	2	3	1	2	3	2	2	4	1	3	3	3	1
Call Center 3	1	1	2	2	2	1	1	1	2	1	2	1	3	1
Business Unit Z	3	3	4	3	3	4	3	2	4	2	4	4	4	2
Plant 1	4	4	5	3	4	5	4	3	5	4	5	5	4	2
Plant 2	3	3	4	3	3	4	4	3	2	4	4	4	4	1
Plant 3	3	2	4	3	3	3	2	1	4	4	4	3	3	2



Quick response (QR) codes

Hello World: width="3cm"

<http://www.4js.com>



Hello World: size not specified
(default error correction (3))



➤ Sub-reports

- Produce REPORT data using sub-reports
- Design a single graphical representation

➤ Templates

- Store part of the graphical representation in a Template library
- Re-use elements of the template library (aggregation)
- Parameterized template elements
- User defined regions in template elements



➤ Sub-reports

REPORT data using sub-reports
Design a single graphical
representation

Three column sub-report in a 'detail' section. When more data is added, the sub-report will stretch the section downwards adding rows but keeping three columns across.

<i>Requisition Spending by Section - Current</i>		
<i>Department: ADP 30300 Mgmt</i>		
<i>Section: 30300000 MGMT.</i>		
<i>Requisition Type</i>	<i>Budget</i>	<i>Total \$</i>
Police Detail for Road	\$0.00	\$1,500.00
Cell Phones	\$20,000.00	\$3,758.15
<i>Summary for 'ReqDept' = 30300000 (2 detail records)</i>		
Sum		\$5,258.15
<i>Section: 30304000 SAFETY</i>		
<i>Requisition Type</i>	<i>Budget</i>	<i>Total \$</i>
Safety data sheets	\$0.00	\$998.00
<i>Summary for 'ReqDept' = 30304000 (1 detail record)</i>		
Sum		\$998.00
<i>Department: ADP 33300 Grounds</i>		
<i>Section: 33304000 Grounds</i>		
<i>Requisition Type</i>	<i>Budget</i>	<i>Total \$</i>
Heavy Equipment Repair	\$95,000.00	\$2,057.00
Paint Booth VOC Tracking Soft	\$1,100.00	\$550.00
State Inspection Stickers	\$1,250.00	\$850.00
Stock	\$10,750.00	\$604.76
Tires	\$45,000.00	\$2,281.28
<i>Summary for 'ReqDept' = 33304000 (5 detail records)</i>		
Sum		\$6,343.04

Thank you



