



**Decision  
Technology**

# The Decision Analyzer

*Data Warehouse Capabilities at a  
fraction of the cost:*

*Using the Mainframe as a Server*



## Why Data Warehouse?

- Make data accessible
- Make data understandable
- Everyone else is doing it



## What people are saying...

Meta Group, 1999

- “Looking at success rates (for data warehouses), higher scores result from centralized enterprise approaches”
- “Organizations reporting failed DW implementation are 2 to 3 times more likely to have employed data mart oriented approaches”
- DW architectures revolving around a centralized data store enjoy a strong lead among successful implementations.”



## What people are saying...

Meta Group, 1999

- Average success rates for Education and Government are approximately 18%
- “Implementing DW for customer, supplier, sales, and financial analysis lead more often to triumphs.”

Gartner Group

- Average data warehouse takes 18 months to implement and costs \$2.1 million.



## The Problem:

“We cannot afford the time nor the resources to develop a data warehouse in order to give our users the access they need to their data.”

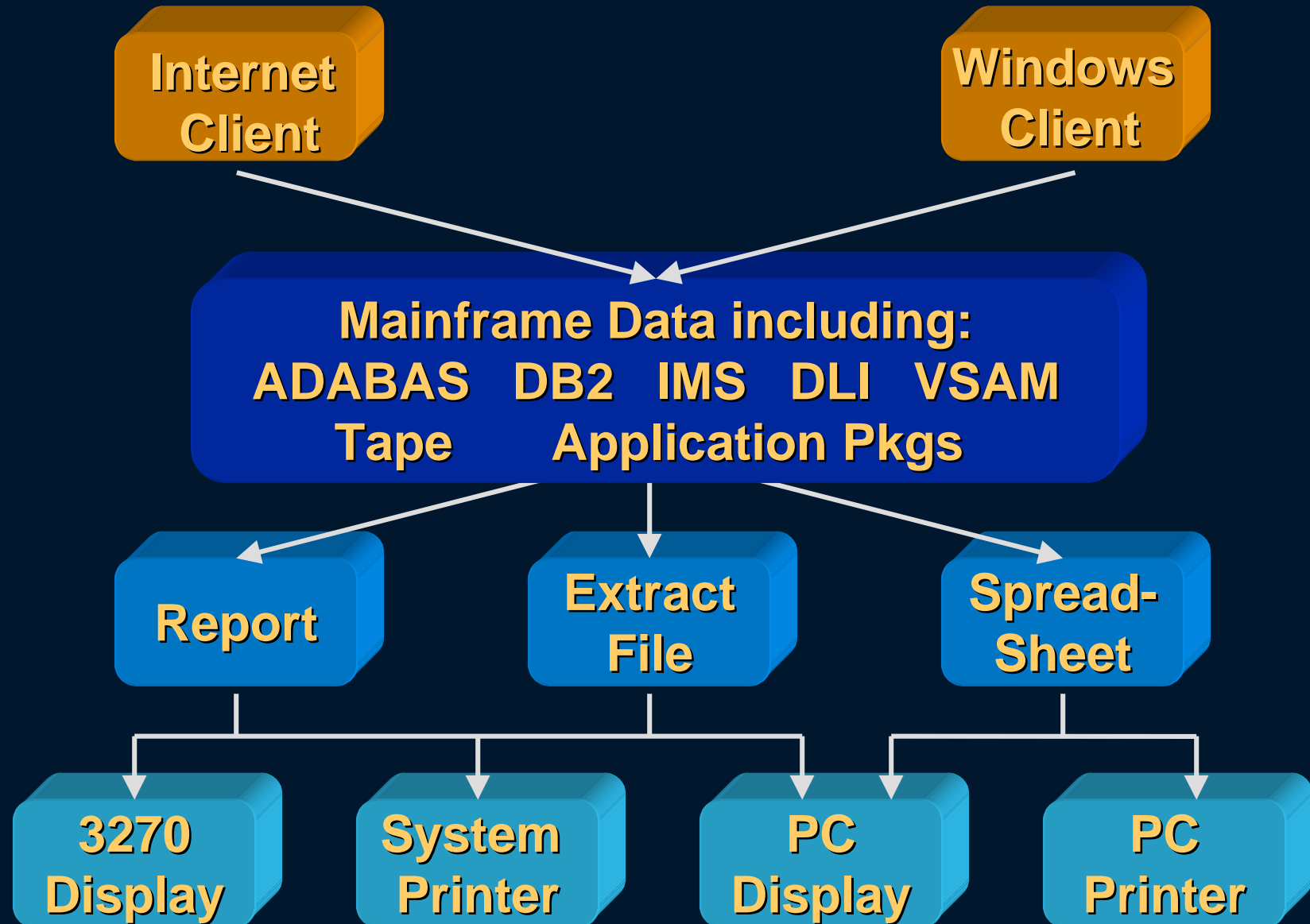


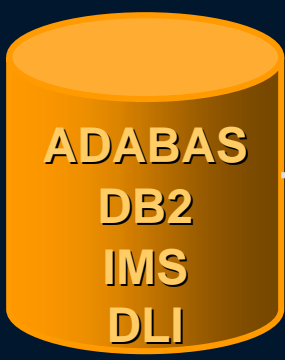
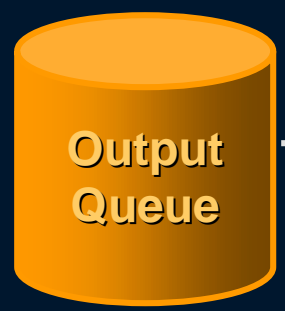
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# Decision Analyzer

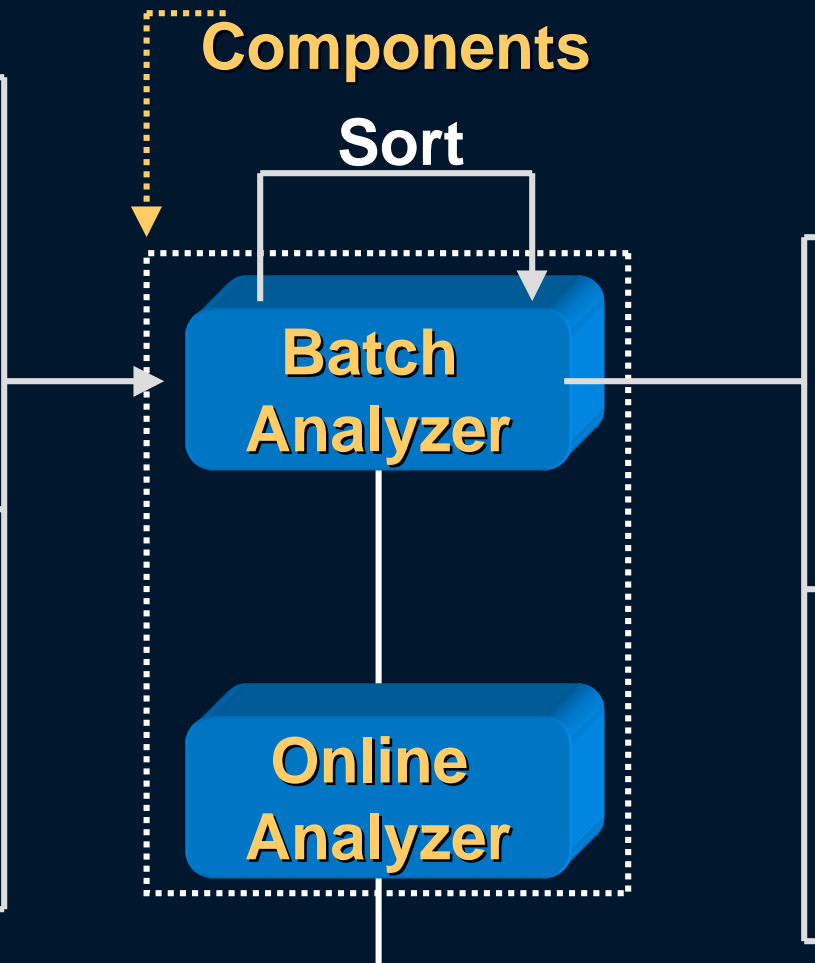
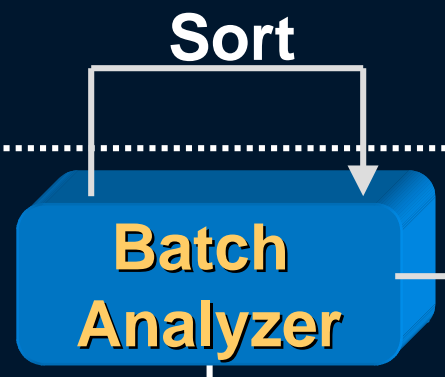
**Product Overview**

# Analyzer for Mainframes



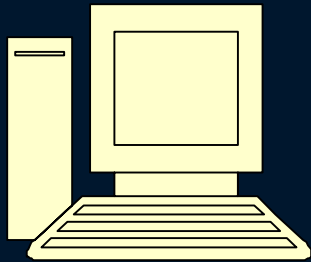


### Mainframe Components





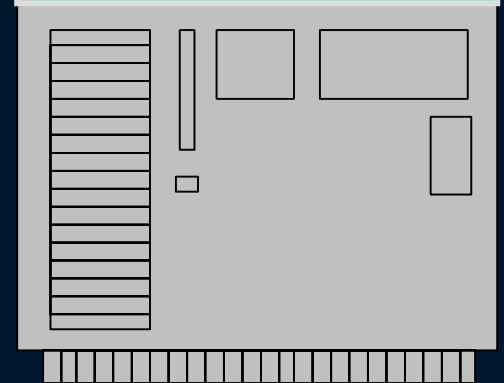
# Internet Access



WWW



CICS Transaction  
Server  
or  
TCP/IP





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# Decision Analyzer

## Mainframe Components



## Mainframe Components

- Combines batch and online execution.
- All mainframe programs written in assembler.
- Components are the batch Analyzer, the online Analyzer, database interfaces, and utilities.



## Batch Analyzer

Processes user requests:

- All file I/O done with object code.
- Allows control of access using the number and priority of the batch partitions/initiators.
- Reads data directly. Never forces the need to duplicate data.



## On-Line Component

Interfaces to the users work station:

- Runs under Transaction Server, CICS, TSO or VTAM-standalone.
- Allows users to design, submit, view, and transfer the results of requests online.



# Controls

Controls on end user access:

- Prohibit reading all records in keyed files.
- Limit records read/selected.
- Limit size of output files.
- Provide centralized libraries and dictionaries.
- Be able to configure by user.



# Security

Security of access to data:

- Works under existing security, e.g., RACF, Top Secret, etc.
- Provides (optional) security to files, fields and records based on values of fields.



## Define

A utility program to create FDDs (File and Data Definitions):

- For tape, sequential and VSAM files from COBOL Record Descriptions.
- For IMS and DL/I files from Data Base Descriptions.
- Automated interfaces for DB2, and ADABAS/Predict.





## On - Demand

An editor for:

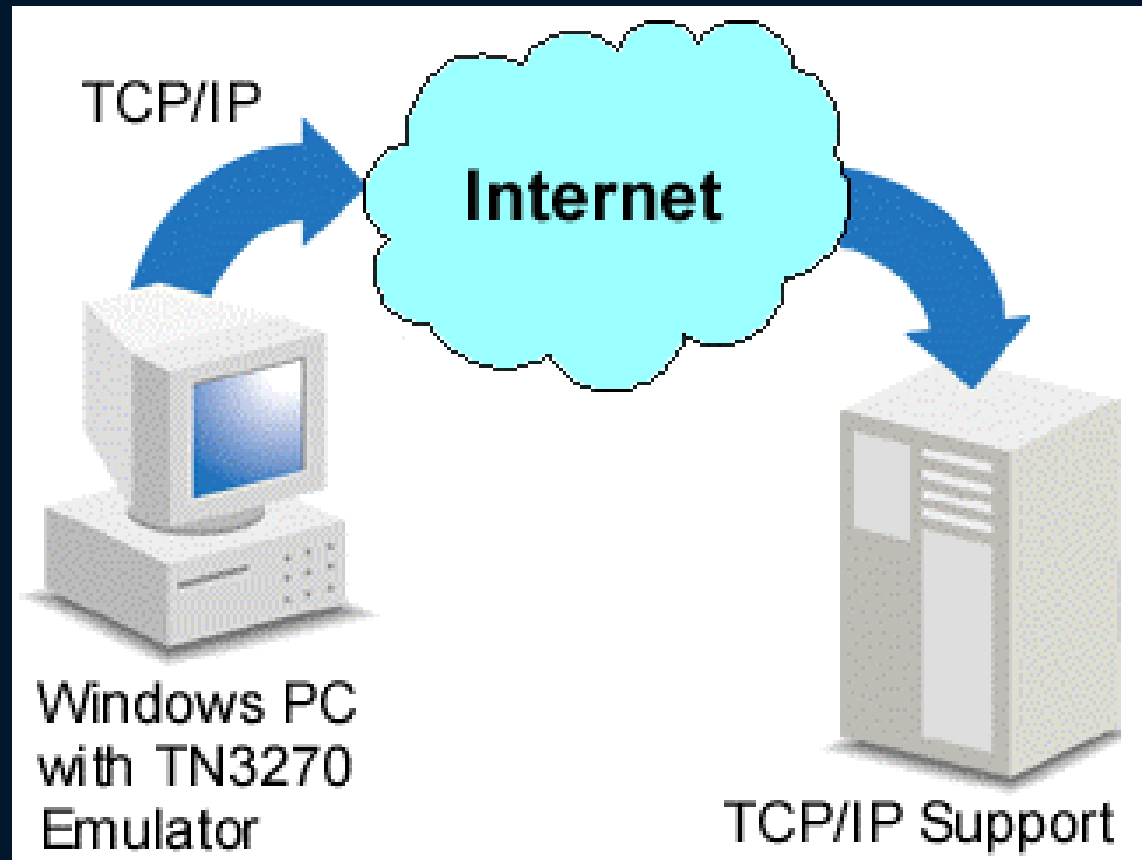
- Modifying FDDs for better field names.
- Establishing libraries of requests.
- Establishing user profiles.
- Review of BCL generated by user requests.



## Client Components

An integrated front-end facility for all Windows environments that provides:

- A Windows interface for request creation.
- A Windows interface to the output queue.
- File transfer.



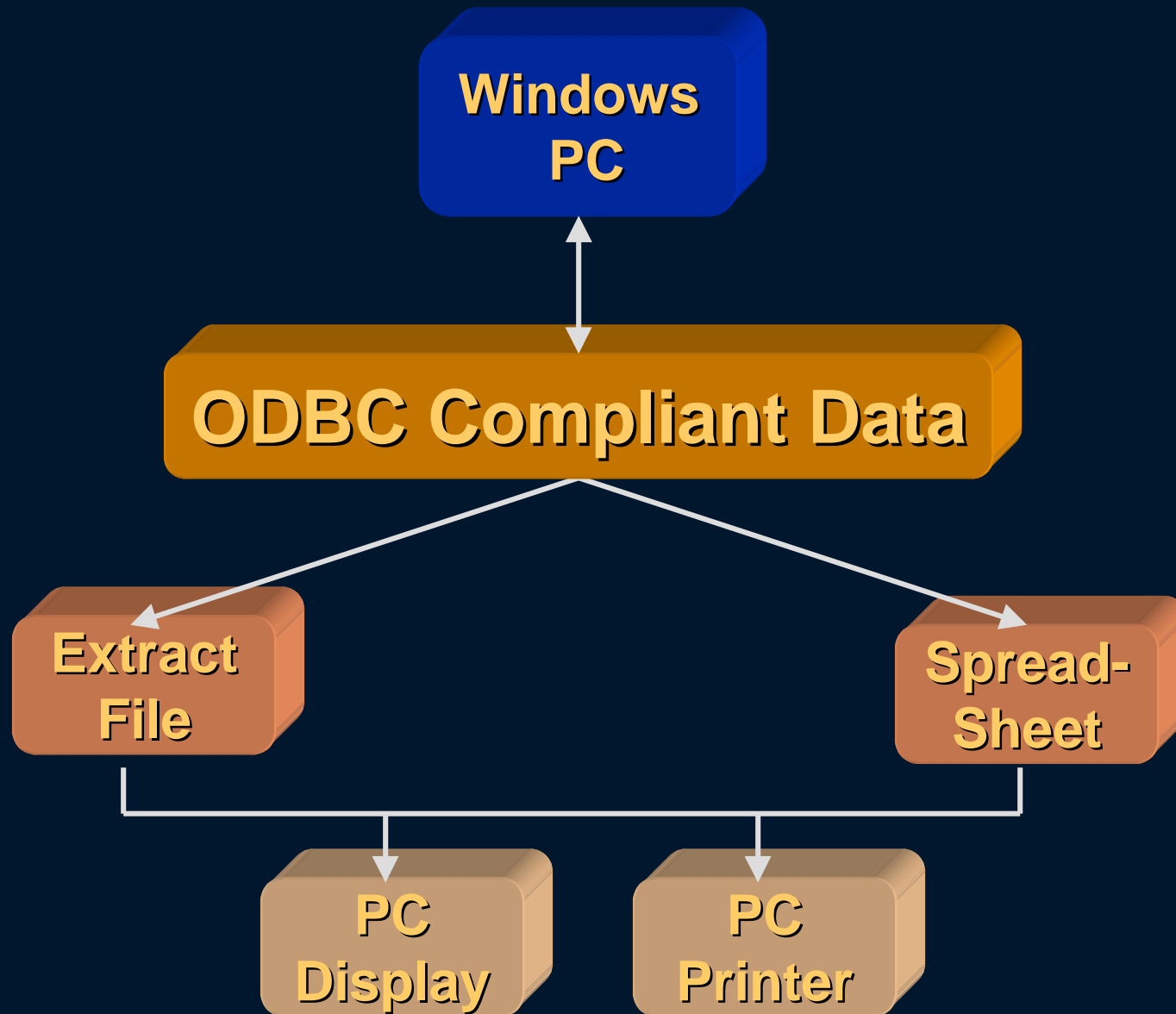


## X-off Menus

For use with 3270 terminals:

- One finger on the tab key; one finger on the X key.
- No knowledge of syntax.
- 100% compatible with Windows interface.

# Analyzer for Servers





## Analyzer for Servers

- Interactive access.
- Reads data from any ODBC compliant data base on any platform.
- Same interface as the Analyzer for Mainframes.



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# Decision Analyzer

**What the Analyzer Does**



# What the Analyzer Does

- Prepare extract files.
- Create spreadsheets.
- Display or print reports.

TRENTON	01	MCCOY	585	618
TRENTON	01	GELMAN	658	685
TRENTON	01	ARNOLD JR.	771	771
TRENTON	02	RICHARDS	675	740
TRENTON	02	KOHLER	762	740
TRENTON	03	DEGAS	685	705
TRENTON	03	MCINTYRE	638	658
TAMPA	04	REDDING	788	723
TAMPA	04	LYNN	728	748
TAMPA	05	PONTE	658	693
TAMPA	05	MARYMONT	762	728
TAMPA	06	GREENWOOD	622	712
TAMPA	06	HAZELTINE	768	834
TAMPA	06	GREENMAN	721	755

	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
<b>Weekly Salaries</b>					
			Last Year's Salary	Current Year's Salary	
7	TRENTON	01	MCCOY	585	618
8	TRENTON	01	GELMAN	658	685
9	TRENTON	01	ARNOLD JR.	771	771
10	TRENTON	02	RICHARDS	675	740
11	TRENTON	02	KOHLER	762	740
12	TRENTON	03	DEGAS	685	705
13	TRENTON	03	MCINTYRE	638	658
14	TAMPA	04	REDDING	788	723
15	TAMPA	04	LYNN	728	748
16	TAMPA	05	PONTE	658	693
17	TAMPA	05	MARYMONT	762	728
18	TAMPA	06	GREENWOOD	622	712
19	TAMPA	06	HAZELTINE	768	834
20	TAMPA	06	GREENMAN	721	755







## Extract Files

- Extract files are a sub-set of records and fields in a variety of formats.
- They can be detail or summary records.
- Can be used to load data into a word processor, a spreadsheet, a database.

**Extract files can be variable length, fixed length,  
.DBF, SQL Server, mainframe file formats or ...**

TRENTON	01	MCCOY	585	610
TRENTON	01	GELMAN	650	685
TRENTON	01	ARNOLD JR.	771	771
TRENTON	02	RICHARDS	675	743
TRENTON	02	KOHLER	702	743
TRENTON	03	DEGAS	665	705
TRENTON	03	MCINTYRE	530	550
TAMPA	04	REDDING	700	723
TAMPA	04	LYNN	720	740
TAMPA	05	PONTE	850	893
TAMPA	05	MARYMONT	702	720
TAMPA	06	GREENWOOD	622	712
TAMPA	06	HAZERLTINE	760	834
TAMPA	06	GREENMAN	721	755

## Extract files can also be in spreadsheet format.

	A	B	C	D	E
1					
2					
3					
4					
5	<b>Location</b>	<b>Dept</b>	<b>Name</b>	<b>Last Year's Salary</b>	<b>Current Year's Salary</b>
6					
7	TRENTON	01	MCCOY	585	610
8	TRENTON	01	GELMAN	650	685
9	TRENTON	01	ARNOLD JR.	771	771
10	TRENTON	02	RICHARDS	675	743
11	TRENTON	02	KOHLER	702	743
12	TRENTON	03	DEGAS	665	705
13	TRENTON	03	MCINTYRE	530	550
14	TAMPA	04	REDDING	700	723
15	TAMPA	04	LYNN	720	740
16	TAMPA	05	PONTE	850	893
17	TAMPA	05	MARYMONT	702	720
18	TAMPA	06	GREENWOOD	622	712
19	TAMPA	06	HAZERLTINE	760	834
20	TAMPA	06	GREENMAN	721	755



## Reports & Spreadsheets

- Fully functional spreadsheets can be created.
- The same Analyzer “functionality” can be applied to spreadsheets or reports.
- Reports can be viewed on the mainframe and can be printed to either mainframe or PC printers.

The Analyzer creates sorted reports or spreadsheets and skips lines at sort breaks.

	A	B	C	D	E
1					
2					<i>Weekly Salaries</i>
3				Last	Current
4				Year's	Year's
5	<b>Location</b>	<b>Dept</b>	<b>Name</b>	<b>Salary</b>	<b>Salary</b>
6					
7	TRENTON	01	MCCOY	585	610
8	TRENTON	01	GELMAN	650	685
9	TRENTON	01	ARNOLD JR.	771	771
10	TRENTON	02	RICHARDS	675	743
11	TRENTON	02	KOHLER	702	743
12	TRENTON	03	DEGAS	665	705
13	TRENTON	03	MCINTYRE	530	550
14	SUBTOTAL			3,993	4,807
15					
16	TAMPA	04	REDDING	700	723
17	TAMPA	04	MCGARVEY	720	740
18	TAMPA	04	LYNN	850	893
19	TAMPA	05	PONTE	702	720
20	TAMPA	05	MARYMONT	600	620

The Analyzer creates reports or spreadsheets that include messages at sort breaks.

	A	B	C	D	E
1					
2	<i>Weekly Salaries</i>				
3				Last	Current
4				Year's	Year's
5	Location	Dept	Name	Salary	Salary
6					
7	TRENTON	01	MCCOY	585	610
8	TRENTON	01	GELMAN	650	685
9	TRENTON	01	ARNOLD JR.	771	771
10	TRENTON	02	RICHARDS	675	743
11	TRENTON	02	KOHLER	702	743
12	TRENTON	03	DEGAS	665	705
13	TRENTON	03	MCINTYRE	530	550
14	SUBTOTAL			3,993	4,807
15					
16	TAMPA	04	REDDING	700	723
17	TAMPA	04	MCGARVEY	720	740
18	TAMPA	04	LYNN	850	893
19	TAMPA	05	PONTE	702	720
20	TAMPA	05	MARYMONT	600	620

**The Analyzer creates spreadsheets that include functions at row sort breaks.**

	A	B	C	D	E
1					
2	<i>Weekly Salaries</i>				
3				Last	Current
4				Year's	Year's
5	Location	Dept	Name	Salary	Salary
6					
7	TRENTON	01	MCCOY	585	610
8	TRENTON	01	GELMAN	650	685
9	TRENTON	01	ARNOLD JR.	771	771
10	TRENTON	02	RICHARDS	675	743
11	TRENTON	02	KOHLER	702	743
12	TRENTON	03	DEGAS	665	705
13	TRENTON	03	MCINTYRE	530	550
14	SUBTOTAL			SUM(D7.D13)	4,807
15					
16	TAMPA	04	REDDING	700	723
17	TAMPA	04	MCGARVEY	720	740
18	TAMPA	04	LYNN	850	893
19	TAMPA	05	PONTE	702	720
20	TAMPA	05	MARYMONT	600	620

Spreadsheets or reports which summarize database records can contain sums, averages, maximums, minimums or counts.

	A	B	C	D	E
1	<i>Weekly Salaries</i>				
2	This Year's Salary				
3		Dept			
4	Location	Nbr	Total	Average	Maximum
5					
6	TRENTON	01	4410	424	491
7		02	1200	400	433
8		03	2405	396	411
9	SUMMARY FOR TRENTON		8015	416	491
10					
11	TAMPA	04	4400	634	678
12		05	1375	567	591
13		06	2095	562	600
14	SUMMARY FOR TAMPA		7870	591	678
15					
16	OVERALL		15885	508	678




**Repeated values of the sort fields can be suppressed.**

	A	B	C	D	E
1	<i>Weekly Salaries</i>				
2	This Year's Salary				
3		Dept			
4	Location	Nbr	Total	Average	Maximum
5					
6	TRENTON	01	4410	424	491
7		02	1200	400	433
8		03	2405	396	411
9	SUMMARY FOR TRENTON		8015	416	491
10					
11	TAMPA	04	4400	634	678
12		05	1375	567	591
13		06	2095	562	600
14	SUMMARY FOR TAMPA		7870	591	678
15					
16	OVERALL		15885	508	678

**Break messages can contain the value of the sort field.**

	A	B	C	D	E
1	<i>Weekly Salaries</i>				
2	This Year's Salary				
3		Dept			
4	Location	Nbr	Total	Average	Maximum
5					
6	TRENTON	01	4410	424	491
7		02	1200	400	433
8		03	2405	396	411
9	SUMMARY FOR TRENTON		8015	416	491
10					
11	TAMPA	04	4400	634	678
12		05	1375	567	591
13		06	2095	562	600
14	SUMMARY FOR TAMPA		7870	591	678
15					
16	OVERALL		15885	508	678

## Break messages and functions can be added to the end of a spreadsheet.

	A	B	C	D	E
1	<i>Weekly Salaries</i>				
2	<i>This Year's Salary</i>				
3		<b>Dept</b>			
4	<b>Location</b>	<b>Nbr</b>	<b>Total</b>	<b>Average</b>	<b>Maximum</b>
5					
6	TRENTON	01	4410	424	491
7		02	1200	400	433
8		03	2405	396	411
9	SUMMARY FOR TRENTON		8015	416	491
10					
11	TAMPA	04	4400	634	678
12		05	1375	567	591
13		06	2095	562	600
14	SUMMARY FOR TAMPA		7870	591	678
15					
16	OVERALL		<b>=C9+C14</b>	508	678

**Each row of a report or spreadsheet can be based on a different set of records.**

	A	B	C	D	E	F
1	<i>Comparison of Salaries</i>					
2	<i>For Employees in Grade Levels A or B</i>					
3						
4				Sum of	Sum of	Avg
5		Dept	Dept	Last	This	Pct
6	Location	Nbr	Name	Year	Year	Incr
7						
8	TRENTON	1-2	SALES	4410	5090	7.7
9		3-4,7-9	FINANCE	1200	1560	6.7
10		5-6	MANUFACTURING	2405	3170	2.2
11	TOTAL FOR TRENTON			8015	9820	5.6
12						
13	TAMPA	1-2	SALES	4400	5070	7.7
14		3-4,7-9	FINANCE	1375	1700	4.4
15		5-6	MANUFACTURING	2095	2810	2.4
16	TOTAL FOR TAMPA			7870	9580	5.3
17						
18	GRAND TOTAL			15885	19400	5.5

**Each column of a report or spreadsheet can be based on a different set of records.**

	A	B	C	D	E	F	G
1	<i>Comparison of Salaries</i>						
2	<i>For Female Employees</i>						
3							
4					<b>Grade Level A</b>		<b>Grade Level B or C</b>
5		<b>Dept</b>	<b>Dept</b>		<b>Last</b>	<b>Last</b>	<b>This</b>
6	<b>Location</b>	<b>Nbr</b>	<b>Name</b>		<b>Year</b>	<b>Year</b>	<b>Year</b>
7							
8	TRENTON	1-2	SALES	4410	5090	2381	4582
9		3-4,7-9	FINANCE	1200	1560	553	943
10		5-6	MANUFACTURING	2405	3170	1283	1711
11	TOTAL FOR TRENTON			8015	9820	4217	7236
12							
13	TAMPA	1-2	SALES	4400	5070	2257	1183
14		3-4,7-9	FINANCE	1375	1700	783	1200
15		5-6	MANUFACTURING	2095	2810	1695	1293
16	TOTAL FOR TAMPA			7870	9580	4735	3676
17							
18	GRAND TOTAL			15885	19400	8952	10912

The columns of a spreadsheet can be based on other columns and break function row cells.

	A	B	C	D	E	F	G
1	<i>Comparison of Salaries</i>						
2	<i>For Employees in Grade Levels A or B</i>						
3							
4				Sum of	Sum of	Pct of	Pct of
5		Dept	Dept	Last	This	Location	Overall
6	Location	Nbr	Name	Year	Year	Sub-total	Total
7							
8	TRENTON	01	SALES	4410	5090	=100*(E8/E11)	26.2
9		02	FINANCE	1200	1560	15.9	8.0
10		03	MANUFACTURING	2405	3170	32.3	16.3
11	TOTAL FOR TRENTON			8015	9820	100.0	50.6
12							
13	TAMPA	04	SALES	4400	5070	52.9	26.1
14		05	FINANCE	1375	1700	17.7	8.8
15		06	MANUFACTURING	2095	2810	29.3	14.5
16	TOTAL FOR TAMPA			7870	9580	100.0	49.4
17							
18	GRAND TOTAL			15885	19400		100.0





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# Decision Analyzer

## How to Create a Request



# The “Ultimate Wizard”

First, specify the data you want...

What file(s)  
What fields  
How to join files  
What new fields  
What records

then, the type of request and request options...

Type of output and type of request

and finally, the form in which you want the output.

Columns  
Cells  
Sorts  
Break functions  
Break messages





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# Decision Analyzer

**Example Data**



# Example Data

## Employee Table

Name	Dept Nbr	Grade Level	Last Year's Salary	This Year's Salary
Richards	1	A	620	680
Alexander	1	A	611	630
McCorkle	1	B	435	462
Runstedt	2	A	481	506

## Department Table

Dept Nbr	Dept Name	Location
1	Sales	Trenton
2	Finance	Trenton
3	Mfg	Trenton
4	Sales	Tampa



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## Example Requests



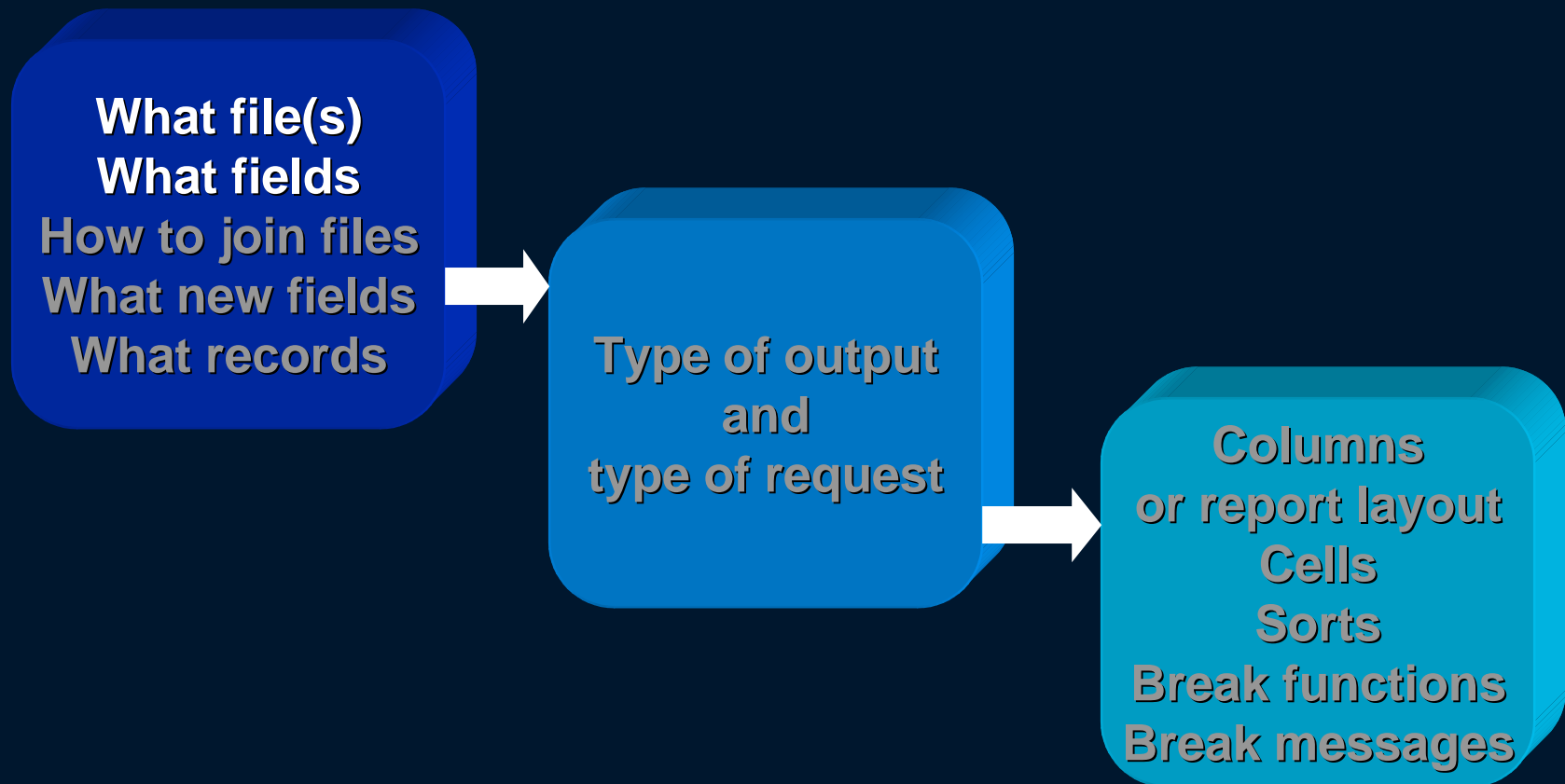
## Value Request

- What are the distinct values for Grade Level?

<b>A</b>	<b>239</b>
<b>B</b>	<b>155</b>
<b>C</b>	<b>156</b>
<b>D</b>	<b>69</b>
<b>E</b>	<b>19</b>
<b>F</b>	<b>18</b>

# The “Ultimate Wizard”

## ■ Values Request





## One Line Request

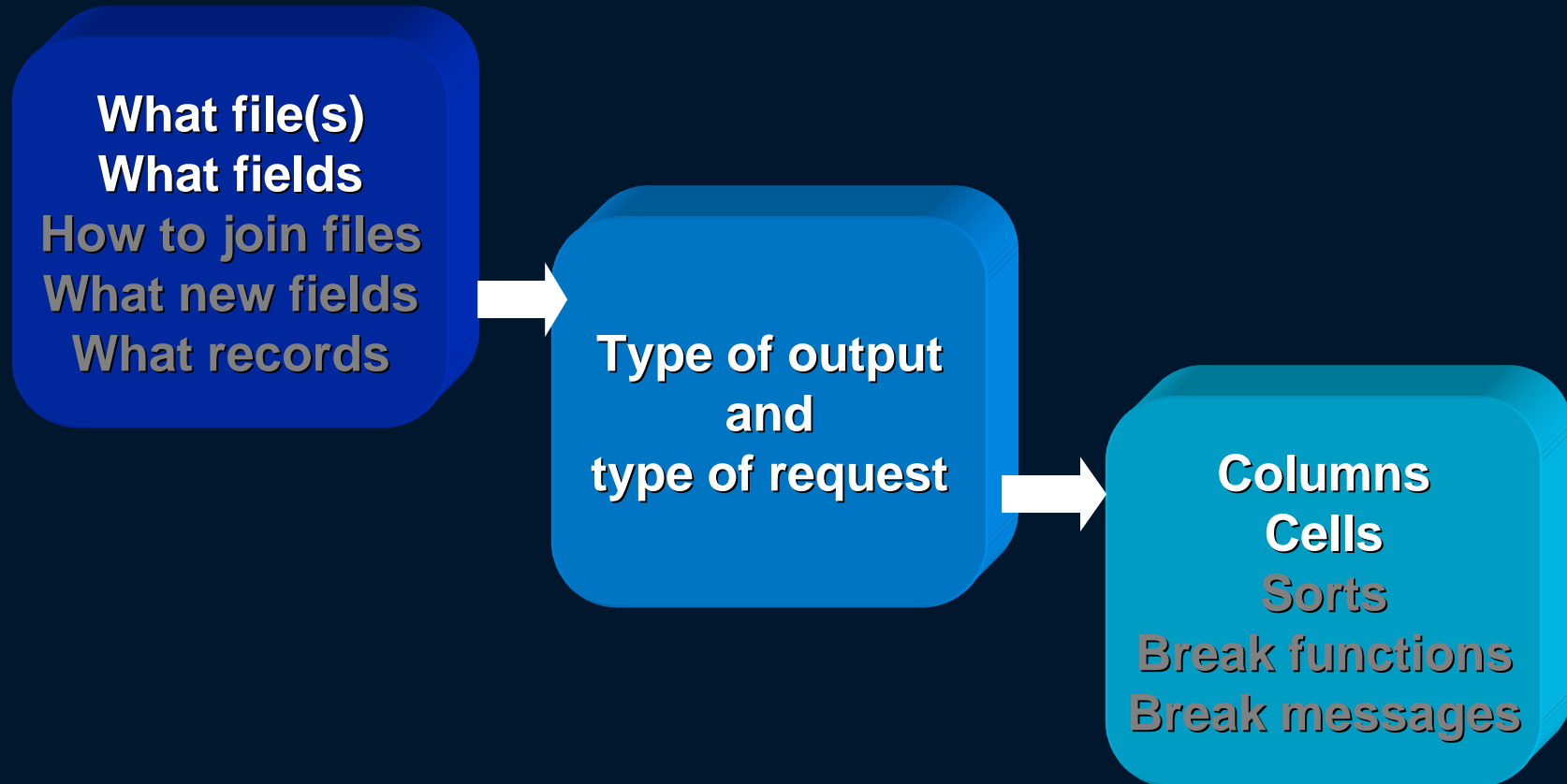
- What were total salaries last year and this year?

407464

439052

# The “Ultimate Wizard”

## ■ One Line Request







## Summary Spreadsheet

- Compare this and last year's salaries.
- Calculate the percent increase.
- Summarize by location and department number.
- Select employees located in Trenton or Tampa who are also in grades A or B.



	A	B	C	D	E	F
1	<b><i>Comparison of Salaries</i></b>					
2	<b><i>For Employees in Grade Levels A or B</i></b>					
3						
4				<b>Sum</b>	<b>Sum</b>	<b>Avg</b>
5		<b>Dept</b>	<b>Dept</b>	<b>Last</b>	<b>This</b>	<b>Pct</b>
6	<b>Location</b>	<b>Nbr</b>	<b>Name</b>	<b>Year</b>	<b>Year</b>	<b>Incr</b>
7						
8	TRENTON	01	SALES	4410	5090	7.7
9		02	FINANCE	1200	1560	6.7
10		03	MANUFACTURING	2405	3170	2.2
11	TOTAL FOR TRENTON			8015	9820	5.6
12						
13	TAMPA	04	SALES	4400	5070	7.7
14		05	FINANCE	1375	1700	4.4
15		06	MANUFACTURING	2095	2810	2.4
16	TOTAL FOR TAMPA			7870	9580	5.3
17						
18	GRAND TOTAL			15885	19400	5.5

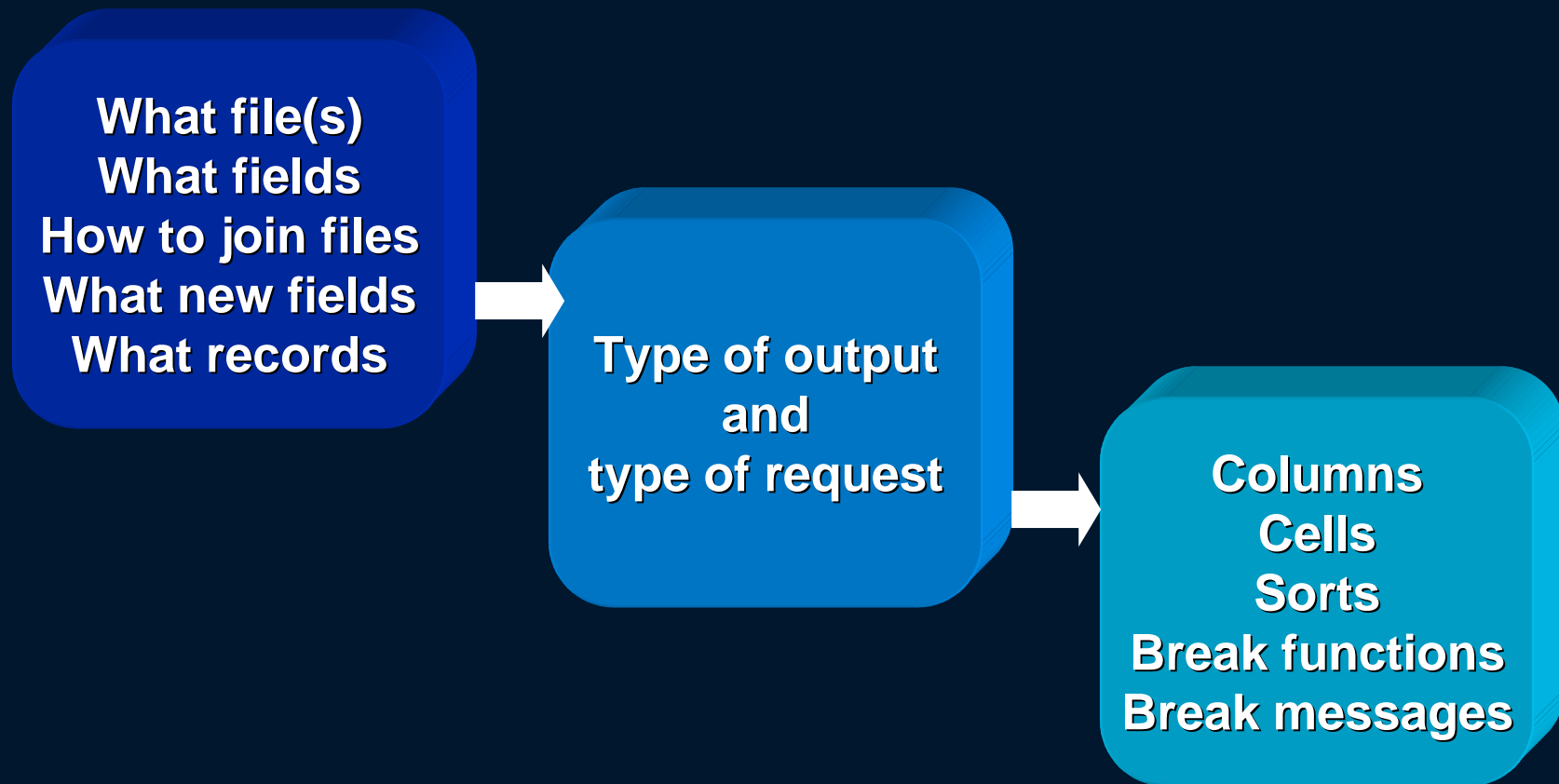


## Reports

- Change the spreadsheet to a report.
- The Report Layout dialog box replaces the Columns dialog box.
- Reports can be printed to any PC/LAN, CICS or system printer.

# The “Ultimate Wizard”

## ■ Summary Spreadsheet Request





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# Decision Analyzer

**The Request Libraries**



## User's Request Library

- Users can save requests in their own “library”.
- They can edit, copy, delete and rename requests in their library.
- They can also run saved requests from their library whenever they want.



## Common Request Library

- Users can run requests in or copy requests from the common library.
- Requests in the Common Library can be restricted in terms of the dialog boxes users can change. An administrator sets which dialog boxes are changeable.



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