



AppDev Studio™ 2.0 SAS® Integration Technologies Enterprise Guide™

SUGI-J 2001

Mark Torr

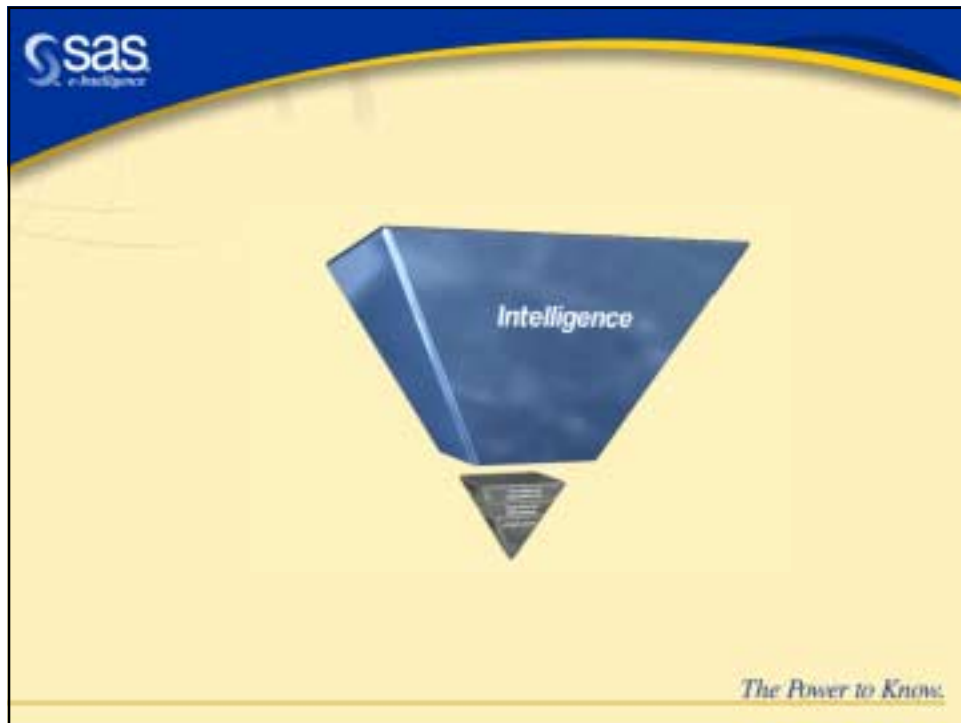
Head of Strategy, SAS Web, Wireless and
Integration solutions

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Today's Focus

Components of the Information Delivery Architecture



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Enterprise Guide™

<http://www.sas.com/eguide>

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Challenges

- Data is Everywhere
 - different servers (local & remote)
 - different architectures
- Tools are Complicated
 - need code for analysis
 - more code for reporting
- Results need Distribution
 - people are everywhere
 - people have different needs

<http://www.sas.com/eguide>

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Application Objectives

- Transparent access to data
- State of the art Windows look and feel
- Customizable user interface
- Ability to export results to other applications
- Repeatability

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Enterprise Guide™ is based on Projects

1. Collect Data (Local & Remote)



2. Analyse Data using Tasks & Code



3. Distribute Results (email, HTML...)



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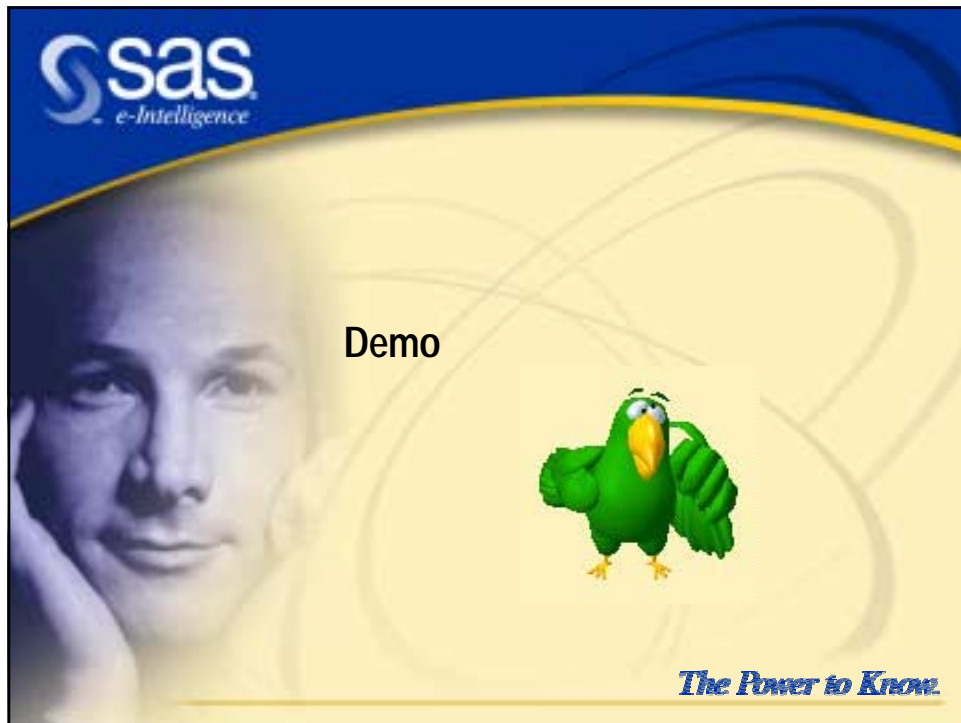
....Enterprise Guide™

is a native Windows client application that unleashes the power of the SAS system



<http://www.sas.com/eguide>

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SAS® Integration Technologies

„Your business is filled with information and services that are unavailable to the people and systems that need them. Applications work fine on their own, but it's difficult to get them to work together.“

Sound familer?

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A presentation slide for SAS e-Intelligence. The top left features the SAS logo with 'e-Intelligence' underneath. The background is a blue header with a yellow curved band. On the left, a faded image of a man's face is visible. The title 'SAS® Integration Technologies' is centered in the yellow band. Below the title is a quote in blue text: „Your business is filled with information and services that are unavailable to the people and systems that need them. Applications work fine on their own, but it's difficult to get them to work together.“. Below the quote is the question 'Sound familer?' in blue text. At the bottom right, the slogan 'The Power to Know.' is written in a blue, italicized font.



Introducing SAS® Integration Technologies

SAS® Integration Technologies

- Support for Industry Standards
 - Distributed Object Technology
 - COM / DCOM, CORBA
 - Messaging Middleware
 - MQSeries and MSMQ
 - Directory Technology
 - LDAP
- Proactive Information Delivery
 - Publishing Framework



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Introducing SAS® Integration Technologies

Extending Benefits Beyond just SAS Applications

- Reduces technology barriers to integration
- Extends the reach of SAS software
- Provides flexibility and control
- Leverage Investments
 - SAS Software
 - Existing IT Infrastructure
 - Personnel Skill Set
- The SAS Server is now more open



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Introducing SAS® Integration Technologies

The *Server Power* behind new SAS Applications...

- **Procurement Vision (SRM)**
- **Enterprise Guide**
- **Many future Applications!**



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Publish & Subscribe Overview

Information has an Important Time Dimension

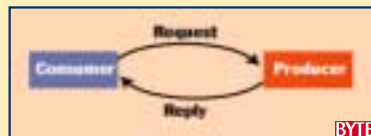
- Information can lose value over time
- Information can become misleading over time
- Information must be delivered to the right people at the right place at the right time



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Publish & Subscribe Overview

- For 30 years, the basic paradigm of computing has been request and reply (R&R)

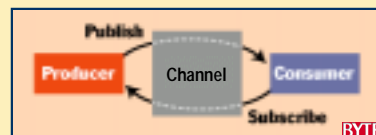


The R&R paradigm is **running out of gas!**

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Publish & Subscribe Overview

Today's dynamic environment demands a more timely method for distributing data and information!



Publish and Subscribe provides a **Solution!**

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The Root of the Info Delivery Problem

Information Producers



Don't always know:

- **who** needs the information
- **how** they need the information
- **when** they need the information



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The Root of the Info Delivery Problem

Don't always know:

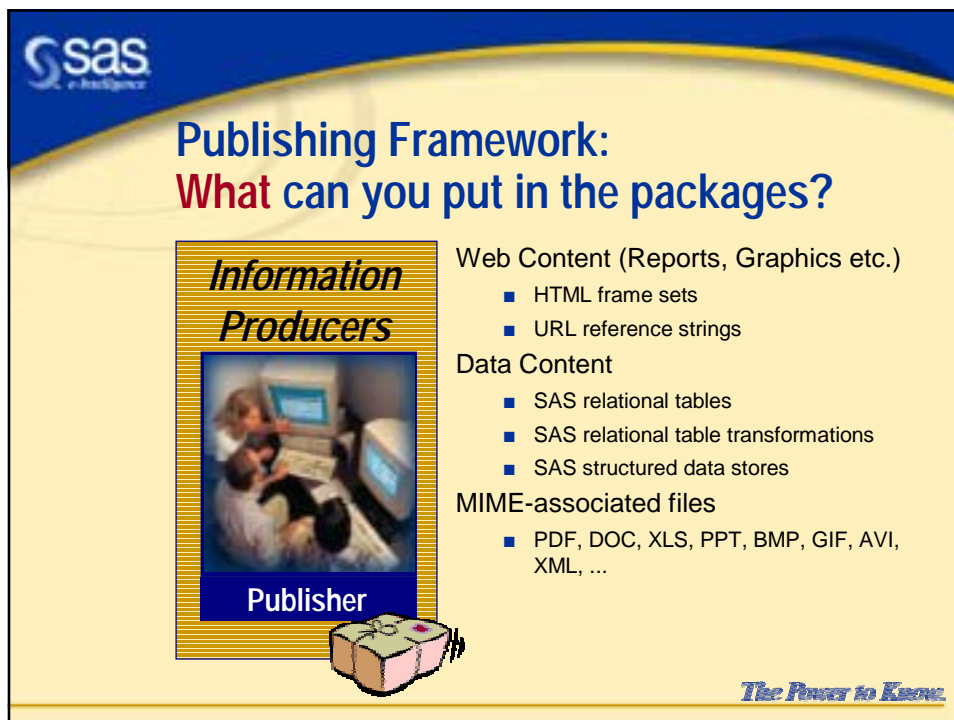
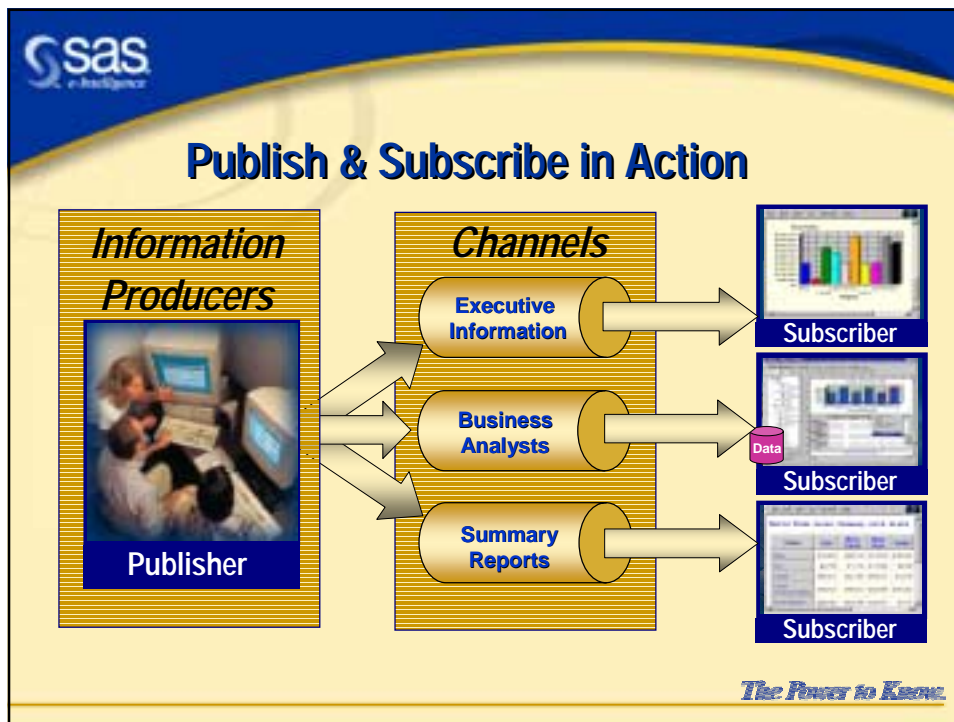
- **who** has the information
- **how** to get the information
- **when** to get the information



Information Consumers



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Publishing Framework: How do you **view** the content?

- HTML e-mail
- Text e-mail with hyperlinks to the content
- Text e-mail with attachment
 - SPK (SAS Package Reader)
- Custom Application Viewer



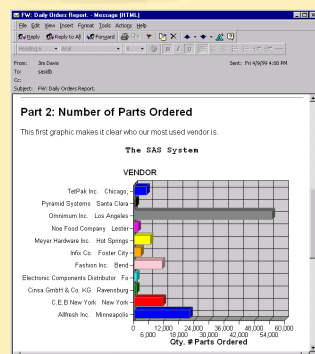
**Information
Consumers**



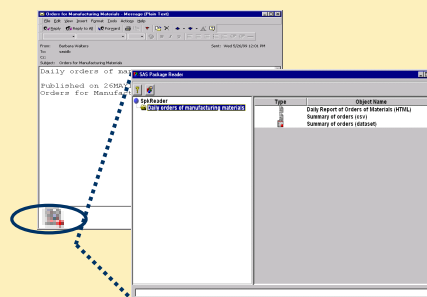
Subscriber

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HTML e-mail Viewer



Text e-mail with attachment, SAS Package Reader



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Publish Content: Package Viewer - Presentation

The screenshot shows the SAS Package Reader interface. The 'SpkReader' pane on the left displays 'Daily orders of manufacturing materials'. The 'Type' pane on the right shows 'Daily Report of Orders of Materials (HTML)' and 'Summary of orders (csv)'. The 'Summary of orders (csv)' report is displayed in a Microsoft Internet Explorer window, showing a table of procurement data. The table has columns for Vendor, Item, Quantity, and Price. The data is organized by Vendor, with items listed under each vendor. The table includes items such as Bottle 1.5, Crate 12 bottles, Fauna margarine, Lemonade 1.5 l bottle, Net of oranges, 4 lb, Pepper, Yoghurt all natural, HD Handle bar without crook lock, High Speed Printer, Bentone 34, Flat gasket, Flatscreen MS 1775P, Harddisk 2149 MB / SCSI-2-Fast, Hexagon head screw M10, Lantern ring, Light Bulb 220/235V 60 watt frosted, Lubricating oil, Slug for shaft, Spiral casing-cast steel, pump G5 Etanorm 200-1000, auto cylinder heads, auto mono block, and Fly wheel CI.

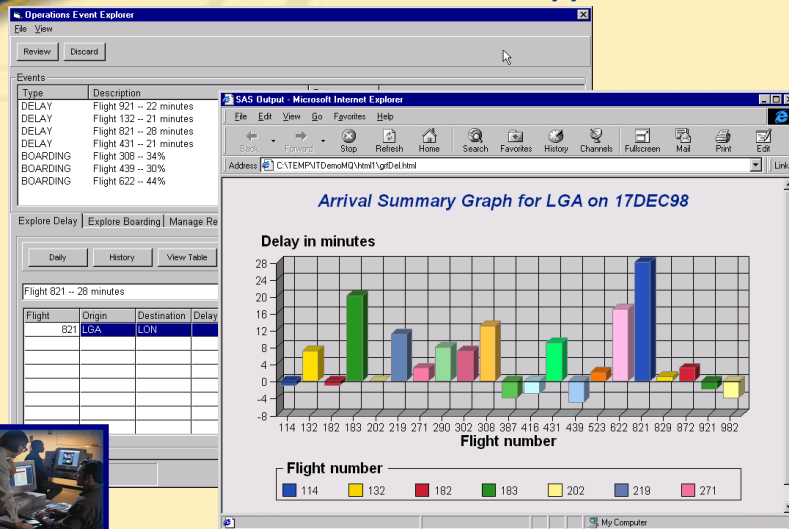
Analyst

Publish Content: Package Viewer - Extraction

The screenshot shows the SAS Package Reader interface. The 'SpkReader' pane on the left displays 'Daily orders of manufacturing materials'. The 'Type' pane on the right shows 'Daily Report of Orders of Materials (HTML)' and 'Summary of orders (csv)'. The 'Summary of orders (csv)' report is displayed in a Microsoft Internet Explorer window. A 'Save Entry As' dialog box is open, showing the file name 'Procure.csv' and the file type 'All Files (*.*)'. The dialog box also shows a list of folders in the 'TEMP' directory, including CL19MFET, CTUN8DIV, CZSJO7EJ, GH27OXM3, ITDemoMQ, SAS Temporary Files, VBE, and _ISTMP1.DIR.

Analyst

Publish Content: Custom Application Viewer



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Publishing Framework: Delivery Options

**Information
Producers**



- Channels and therefore to Subscribers
- E-Mail
- Message Queue



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Publishing Framework Details

Interested in the details and code behind the scene?

```
data _null_;
  description = "Summary Report ...";
  nameValue = "det...";
  call putout_put(put, description, nameValue, n);
  description = "Origination Summary Tables ...";
  nameValue = "...";
  call insert_put(put, description, nameValue, n);
  format _null_;
  format _null_;
  format _null_;
  page, _null_;
  description, nameValue, text;
```

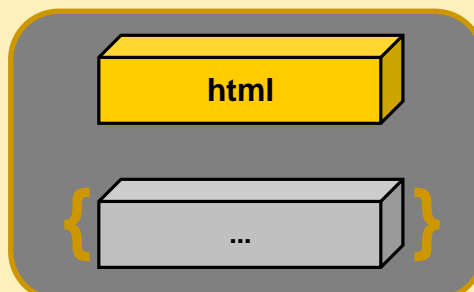
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Publishing Framework: Result Package Construction

package_begin

insert_html

{insert_...}



package_publish

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Publishing Framework Example

Sample Report Code

```
PROC PRINT DATA=WDATA.DEMOGRAP;  
  VAR ACCTNUM AGE COUNTY EDLEVEL GENDER HOMEVAL INCOME JOB MARITAL;  
RUN;  
TITLE;FOOTNOTE;RUN;
```

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Publishing Framework Example

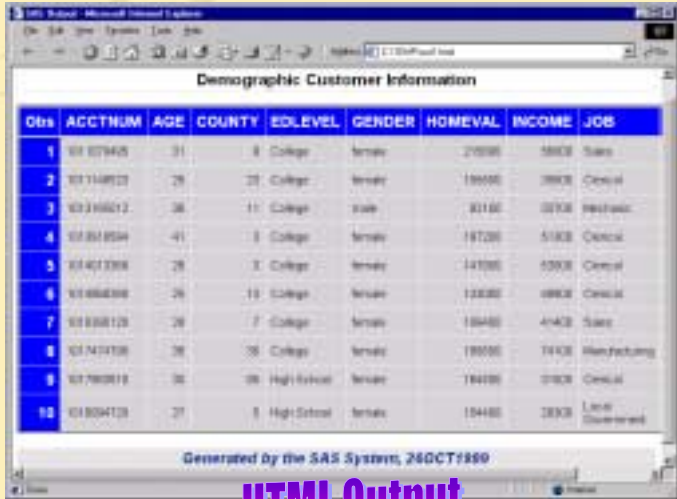
Sample Report Code

```
ODS HTML FILE ="c:\my demos\out1.html"  
STYLESHEET=(URL="C:\Program Files\SAS Institute\Enterprise Guide\Styles\default.css");  
PROC PRINT DATA=WDATA.DEMOGRAP;  
  VAR ACCTNUM AGE COUNTY EDLEVEL GENDER HOMEVAL INCOME JOB MARITAL;  
RUN;  
TITLE;FOOTNOTE;RUN;  
ODS HTML CLOSE;  
ODS LISTING;
```

Add ODS Code

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HTML Output

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Obs	ACCTNUM	AGE	COUNTY	EDLEVEL	GENDER	HOMEVAL	INCOME	JOB
1	01009405	31	8	College	Female	21000	18000	Sales
2	011148029	28	20	College	Female	18000	28000	Clerical
3	013166012	38	11	College	Male	81100	32000	Professional
4	010018094	41	8	College	Female	18700	51000	Clerical
5	014013008	28	3	College	Female	14700	13000	Clerical
6	010000000	26	19	College	Female	12000	18000	Clerical
7	010000120	28	7	College	Female	10000	41000	Sales
8	011414000	28	35	College	Female	18000	14000	Manufacturing
9	017800010	30	26	High School	Female	18000	21000	Clerical
10	01004120	27	8	High School	Female	15000	28000	Little Government

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Publishing Framework Example

report code <snip>

```
data _null_;
packageId=0; rc=0; desc = "Demographic CI Data"; nameValue="";
/* Create Package to be Published */
CALL PACKAGE_BEGIN(packageId, desc, nameValue, rc);
desc = "ODS Output";
CALL INSERT_HTML(packageId, "filename:c:\my demos\EG Demo\out1.html", "", "",
,
, desc, nameValue, rc);
```

➔

Add Publishing Code



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Publishing Framework Example

Add Publishing Code

```
data _null_;
  pkgid=0; rc=0; desc = "Demographic CI Data"; nameValue="";

  /* Create Package to be Published */
  CALL PACKAGE_BEGIN(pkgid, desc, nameValue, rc);
  bodyurl = "";
  desc = "ODS Output";
  CALL INSERT_HTML(pkgid, "filename=c:\my demos\EG Demo\out1.html", "", "",
    " ", " ", " ", " ", desc, nameValue, rc);

  /* Publish to the channel1 channel Defined in LDAP Directory */
  ldapinfo = "LDAP://localhost:389/o=SAS Institute,c=US";
  channel1 = "ds pubs";
  properties = "channel_store, subject, archive_path";
  subject = "Demographic Listing Report";
  archive_path = "c:\Archives";
  CALL package_publish(pkgid, "TO SUBSCRIBERS", rc, properties, ldapinfo,
    subject, archive_path, channel1);
  CALL PACKAGE_END(pkgid, rc);
run;
```

Channel

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Publishing Framework Example


SAS Package Reader

Demographic Customer Information

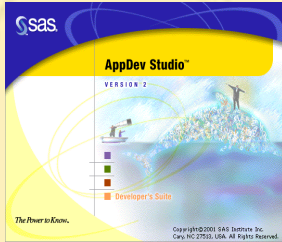
Obs	ACCTNUM	AGE	COUNTY	EDLEVEL	GENDER	HOMEVAL	INCOME	JOB
1	010101405	31	8	College	Female	27000	18000	Sales
2	0101148020	28	20	College	Female	18000	18000	General
3	0101166012	38	11	College	Male	81100	32000	Production
4	0101018094	41	8	College	Female	18700	51000	General
5	0101012006	28	3	College	Female	14700	50000	General
6	0101000000	26	19	College	Female	12000	18000	General
7	0101000120	28	7	College	Female	10400	41400	Sales
8	0101010100	28	35	College	Female	18000	14400	Manufacturing
9	0101000010	36	20	High School	Female	18400	27000	General
10	0101004020	27	8	High School	Female	10400	28000	Low General

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AppDev Studio™ Software



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AppDev Studio™ - The SAS Development Environment

Complete standalone development environment...

- All on one box (either laptop or desktop)
- No connection to the server needed

...too create **various styles** of...

- Web-client applications
- Wireless applications
- Windows applications
- Power-client applications

...that **leverage SAS**.

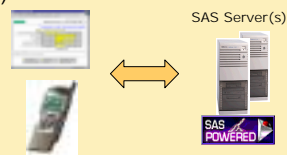
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AppDev Studio™ - Key Features and Benefits

Develop applications of **any type** to talk to the **leading information delivery server** from SAS by **using industry standards...**

- Java on the client (applets and applications)
- Java on the server (Servlets, JSP, EJB)
- Flexible CGI/HTML applications
- Active Server Pages applications
- Windows clients
- Traditional fat-client applications



...that **seamlessly integrate** into companies IT infrastructure.

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AppDev Studio™ - all you need to do application programming

AppDev Studio™ **Standard Edition** comes with a **package of 11 SAS products.**

- SAS/Base, SAS/AF, SAS/FSP
- SAS/EIS, SAS/GRAPH, SAS/CONNECT, SAS/SHARE
- SAS/IntrNet, SAS Integration Technologies
- webAF, webEIS

Other modules can be added for development purposes.

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AppDev Studio™ - all you need to do application programming

AppDev Studio™ **System Edition** if SAS System is already installed.

- SAS/CONNECT, SAS/SHARE
- SAS/IntrNet, SAS Integration Technologies
- webAF, webEIS

Other modules can be added for development purposes.

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AppDev Studio™ - webAF™ Java Development



The **ONLY** Java IDE tailored specifically to the creation of Information Delivery Java applications either on the **client side** or on the **server side**.

webAF™ comes complete with:

- An industry standard GUI.
- Easy to use visual development environment.
- Powerful wizards to hide complicated Java programming.
- Pre-supplied InformationBeans™ to leverage the SAS Server.



**Increased Profit,
Solid Returns**

Benefits include:

- Rapid application development and instant SAS connections.
- Ability to re-use existing SCL code.
- Seamless access to a wide range of data sources.

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AppDev Studio™ - webEIS™ An OLAP application builder



Robust Java application for **OLAP reporting** without the need to write a single line of Java code.

webEIS™ comes complete with:

- Easy to use drag-and-drop interfaces combined with powerful wizards that prevent the need for any Java programming knowledge
- Seamless integration with existing SAS/EIS metabases

Benefits include:

- Rapid, code-free document design and generation.
- Empower users to do their own analysis and reporting
- IT can concentrate on strategic projects rather than on individual one-time requests



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AppDev Studio™ - SAS/IntrNet® Exploit SAS via the Worldwide Web

SAS/IntrNet® provides one set of **underlying infrastructure** for creating Java applications, that run on either the client or the server, as well as CGI applications. It's the 'plumbing'!

SAS/IntrNet® delivers:

- Data Services
Perform dynamic SQL queries (and Updates) and format the data returned for display in a web browser.
- Compute Services
Create custom HTML reports, perform complex data analysis, generate interactive graphs, run decision support applications or deliver OLAP reporting. All from the friendly confines of a web browser.



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AppDev Studio™ - Integration Technologies

Integrate your applications

With SAS Integration Technologies you can **develop applications** that **easily integrate** into the customers IT infrastructure.

Already Discussed!

Demo

Year: 1993		Quarter								
Country	Region		Actual	Sales	Actual	Sales	Actual	Sales	Actual	Sales
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
CANADA	EAST		\$14,505.00	\$15,895.00	\$15,595.90	\$15,394.80				
	WEST		\$14,799.00	\$13,830.00	\$14,740.90	\$13,621.90				
GERMANY			\$20,808.00	\$14,990.00	\$15,855.80	\$14,883.80				
U.S.A.			\$29,910.00	\$80,286.00	\$24,766.90	\$15,332.80				

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