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Big Brother for SAS/IntrNet® Security and Tracking Agent

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What is SAS/IntrNet software?

- SAS/IntrNet software extends SAS software's powerful data retrieval and analysis functionality to the *World Wide* Web.
- Application development and distribution
- Report and information distribution

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The SAS/IntrNet components

- Application Dispatcher
- htmSQL
- SAS/CONNECT driver for Java, which includes the SAS/SHARE driver for JDBC

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The SAS/IntrNet applications

- MDDB Report Viewer
- MetaSpace Explorer.

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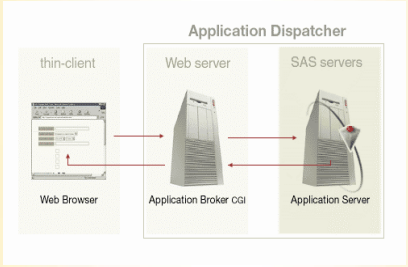
Application Dispatcher



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What Is the Application Dispatcher?

- The Application Dispatcher exchanges and processes information.
- It has the following components:
  - The *input component* runs on the Web server or the client. It normally consists of static or dynamically generated HTML pages containing URL references or HTML forms.

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What Is the Application Dispatcher?

- The *Application Broker* is a CGI program that resides on your Web server.The Broker interprets the information received from the input component and passes it to the Application Server
- The *Application Server* is a SAS session that receives input from the Application Broker. The Application Server accepts information from the Broker CGI program and invokes the program component.

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What Is the Application Dispatcher?

- The *program component* is a SAS program invoked within the Application Server. The program
  1. receives the request from the server
  2. processes it
  3. returns the results to the Broker for delivery to the Web browser and the waiting user.

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Who Uses the Application Dispatcher?

- The Application Dispatcher has several types of users:
  - End users enter information in a form, select a link, or view an inline image that displays in a Web browser.
  - Web-page authors create the HTML forms or pages.
  - System administrators, also known as Webmasters.

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Security

- Operating system
- Web server
- HIPAA

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Big Brother for SAS IntrNet

- The SAS/Intrnet application was initially designed to be user friendly with no ID / password restrictions, *however with new laws requiring security (example HIPAA) the parameters needed to be changed*.
- *Therefore we needed a new* development of validation and tracking agent.

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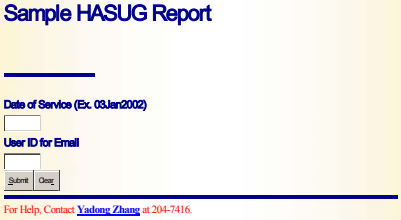
Form Design



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Form Design

- The form use JavaScript for preliminary data quality check.
- The form gives a reminder if wrong parameters are entered.
- The User ID field is used for
  - User validation
  - Email notification

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Form Design

- Hidden field _apps, stores application name
- Hidden filed _appsgrp, stores application group name (User department name)

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HTML

```
<HTML><HEAD>
1.
<SCRIPT language="JavaScript">
function checkchars(form)
{var max=9
 if (form.dos.value.length !=9)
     {alert("Please input the required 9 characters for the Start Date!")
      form.dos.focus()
      return false   }}
</SCRIPT>
</HEAD>
```

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HTML

```
<FORM onsubmit="return checkchars(this)" action="/cgi-bin/sasweb/broker" method=post>

<P><B>Date of Service (Ex. 03Jan2002) </B></P>
<P><INPUT name=dos size=9 ></P>

<p><B>User ID for Email </b></p>
<P><INPUT name=userid size=9 ></P>
```

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HTML

- <INPUT name=_SERVICE type=hidden value=default>
- **3.**
- <INPUT name=_PROGRAM type=hidden value=finance.prv_pw.sas>
- **4.**
- <INPUT name=_apps type=hidden value=PROVIDER>
- <INPUT name=_appsgrp type=hidden value=finance>

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Password database

- A user-list database was created
- Sample layout.

Userid	yzhang	jsmith
Role	Dev	user
Apps	All	provider
Appsgrp	All	SIU

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Control Program

- The Control program first checks the user ID for privileging purposes.
- If the use is authorized, the macro ‘pass’ is then called to execute a SAS program and create the report and send email notification.
- If not, the program will call macro ‘fail’ to remind the user of the security enforcement.
- A report entry will then be written to the tracking database

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Control.sas

```
**-- Check user privilege --**;
data a;
 set pass.userlist;
 if userid=upcase("&userid");
 if role='DEV' or apps='ALL' or appsgrp="&_appsgrp" or
    apps="&_apps";
run;
```

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Control.sas

```
**-- Take appropriate action --**;
data b;
 if nn=0 then
  call execute('%fail');
 else
  call execute('%pass');
 set a nobs=nn;
 stop;
Run;
```

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Control.sas

```
**-- Tracking --**;
data c;
date=today();
user=”&userid”;
 …
run;
proc append base=pass.track data=c;
run;
```

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%PASS

```
%macro pass;
systask command
   "/wrk/wrp/web/finance/hasug.sh &dos
   &userid " nowait;
```

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%PASS

```
data _null_;
 file _webout;
put '<HTML><BODY>';
put "<P><b> Hi  &userid, please wait for email
   notification </b></P>";
 put "<P><b> For DOS  &dos  </b></P>";
 put '</BODY></HTML>';
run;
%mend;
```

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%Fail

```
%macro fail;
data _null_;
 file _webout;
put '<HTML><BODY>';
put "<P><b> Sorry '&userid , you are not
   authorized to run this report </b></P>";
 put '<P><b> Please contact the administrator
   </b></P>';
 put '</BODY></HTML>';run;
```

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Side Benefits

- No more time out.
- Multiple report format: HTML, DBF …

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Demo

http://cognos/sasapps/provider.html

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Q & A

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