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Example project: Fedenet portal site

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The Fedenet portal site

n **Private information portal** for Fedenet,
the new intra/extranet of the Belgian Federal Government

n Goals:

- **uniform interface** to distributed and heterogeneous databases
 - databases controlled by the Federal Government
 - Belga, Justel, REGEDOC, FVD-SFI: Euro, Year 2000, ...
 - databases controlled by external information providers
 - European Commission: Celex, Eclas, Eur-Lex, Idea, TED, ...
- **scalable solution** (more than 15.000 users planned)
- **manageable solution** (staff of less than 5 full-time persons)
- using a **standards-based** set of common Web functionalities
 - HTML 3.2, JavaScript, SSL
 - Microsoft Internet Explorer, Netscape Navigator
 - JDK 1.1.x virtual machine with Java Foundation Classes



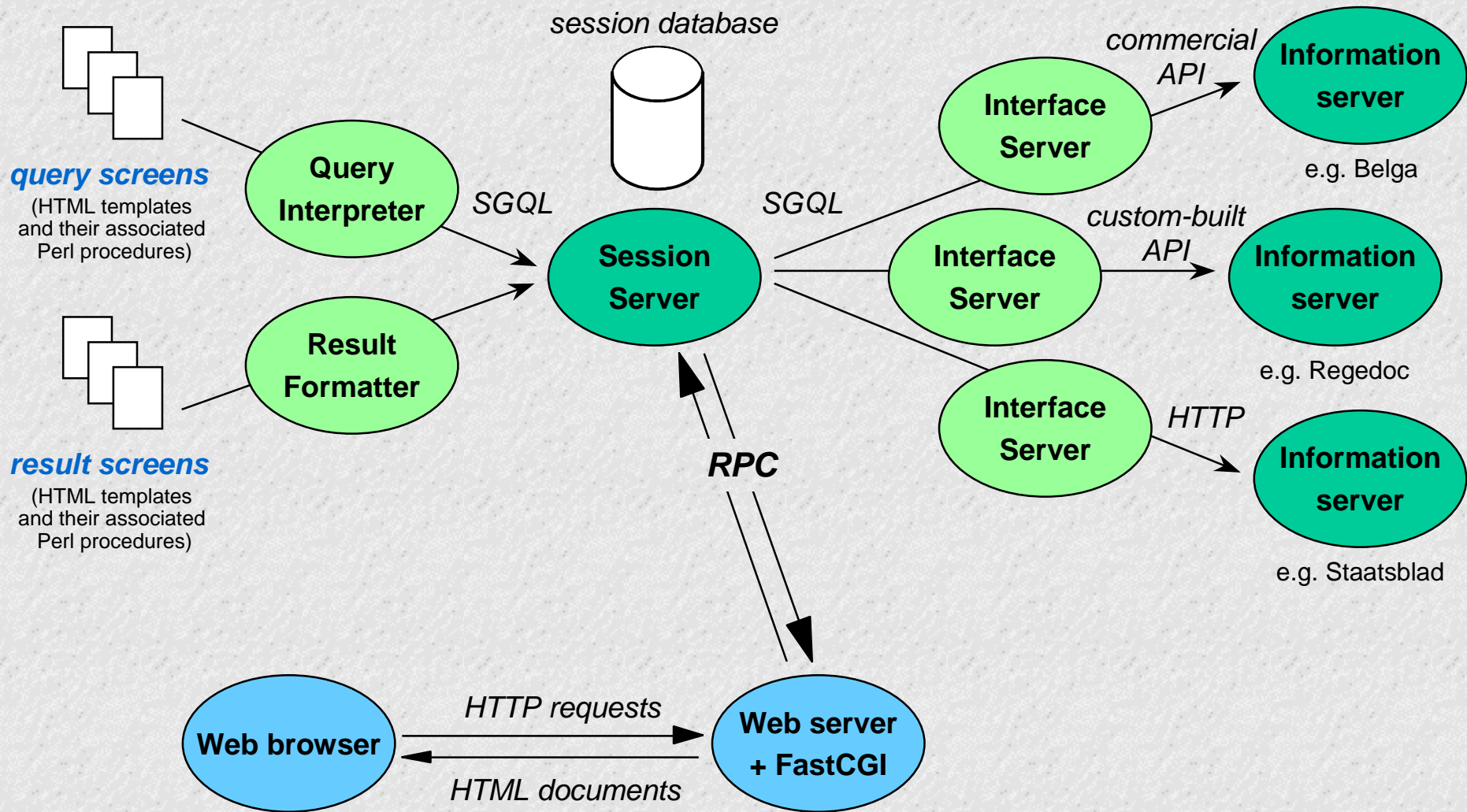
The Fedenet portal site

- n The challenge: build a single site to provide access to
 - **distributed data sources** (inside/outside the Fedenet intranet)
 - **heterogeneous data sources** (document databases, Web sites, ...)

- n The solution: the **Smart Gateway application server**
 - intelligent master server: the **Session Server**
 - for managing Digipass-secured, user profile-based Web access combined with a **Query Interpreter** and a **Result Formatter**
 - for executing data source queries and formatting query results
 - intelligent data source access servers: **Interface Servers**
 - for managing access to the different data sources
 - application development languages:
 - **Perl**
 - **SGQL** (Smart Gateway Query Language)

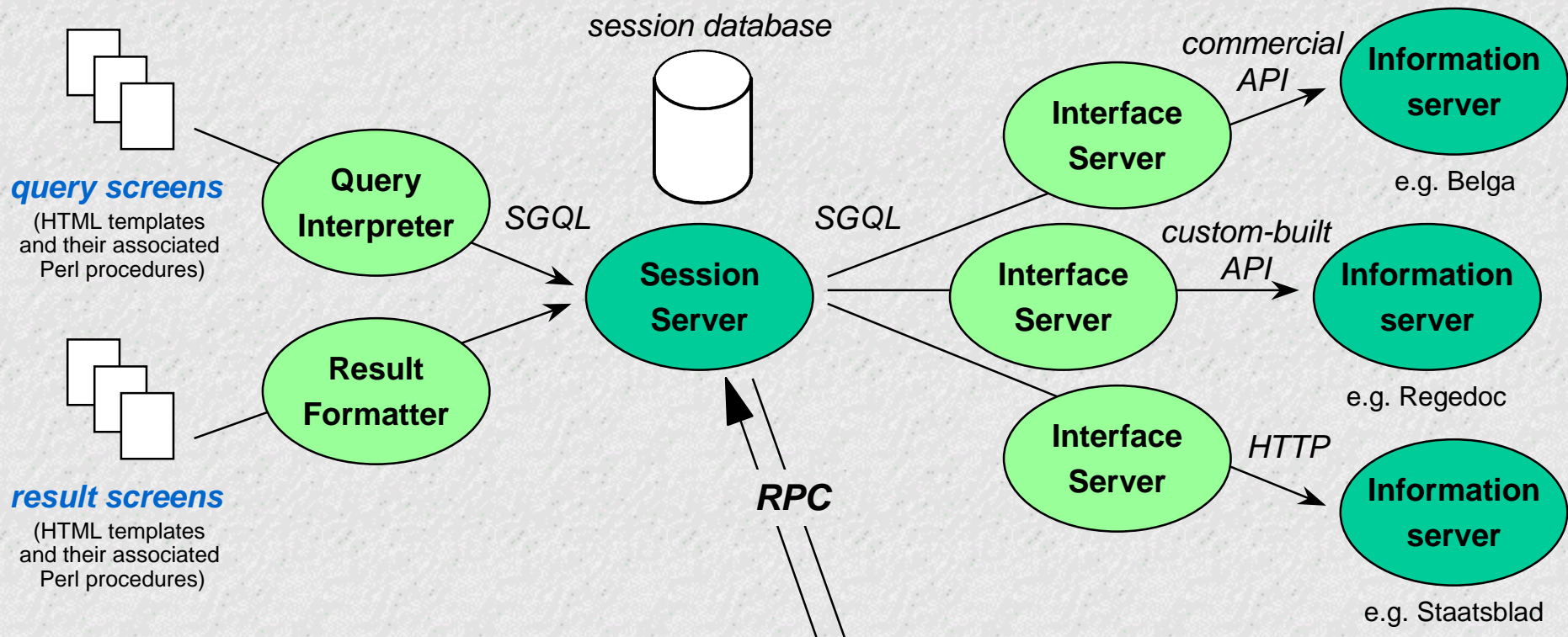


How the *Smart Gateway* works





How the *Smart Gateway* works



A *Smart Gateway* application consists of

HTML templates (used by the *Smart Gateway* users)

query screens / result screens

application procedures (used by the *Smart Gateway* developers)

application-specific procedures / generic data source access procedures



Example Dutch screen

Belga NL (1997-...): Welkom - Netscape

File Edit View Go Communicator Help

 **Belga NL (1997-...)**  **Welkom**  

Kies een persagentschap: Kies een zoekmogelijkheid:

 **Snel zoeken**
Via deze functie kunt u snel zoeken in de tekst van de Nederlandstalige telexen (van de laatste 3 maanden, vandaag inbegrepen).

 **Uitgebreid zoeken**
Via deze functie kunt u uitgebreid zoeken in de tekst van alle Nederlandstalige telexen (sinds het begin van 1997, vandaag inbegrepen).

 **Zoeken in de index**
Via deze functie kunt u zoeken met behulp van de index van alle woorden in al de Nederlandstalige telexen (sinds het begin van 1997, vandaag inbegrepen).

Document: Done 



Example French screen

Belga NL (1997-...): Bienvenue - Netscape

File Edit View Go Communicator Help

 **Belga NL (1997-...)**  **Bienvenue**

Choisissez un service de presse: Choisissez une recherche:

 **Recherche simple**
Grâce à cette fonction, vous pouvez effectuer une recherche plein-texte simple dans les dépêches en néerlandais (des 3 derniers mois, aujourd'hui inclus).

 **Recherche étendue**
Grâce à cette fonction, vous pouvez effectuer une recherche plein-texte complexe dans toutes les dépêches en néerlandais (depuis le début de 1997, aujourd'hui inclus).

 **Recherche dans l'index**
Grâce à cette fonction, vous pouvez effectuer une recherche à l'aide de l'index de tous les mots dans toutes les dépêches en néerlandais (depuis le début de 1997, aujourd'hui inclus).

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Corresponding HTML template

```
<TABLE BORDER="0" CELLSPACING="2" CELLPADDING="0" WIDTH="100%">
<TR><TD ALIGN="middle" VALIGN="TOP" WIDTH="80">
<A HREF="TEMPLATE/belnl97/Main?view=SimpleQuery" TARGET="_top">
<IMG SRC="/basisicons/News/SimpleQuery.gif" HEIGHT="25" WIDTH="52"></A></TD>
<TD VALIGN="TOP">
<P><A HREF="TEMPLATE/belnl97/Main?view=SimpleQuery" TARGET="_top">
<FONT FACE="Helvetica,Arial"><B>&setSimpleQueryTEXT;</B></FONT></A><BR>
<FONT FACE="Helvetica,Arial">&setSimpleQueryExplanationHTML;</FONT></P></TD>
</TR>
<TR><TD ALIGN="middle" VALIGN="TOP" WIDTH="80">
<A HREF="TEMPLATE/belnl97/Main?view=ComplexQuery" TARGET="_top">
<IMG SRC="/basisicons/News/ComplexQuery.gif" HEIGHT="25" WIDTH="52"></A></TD>
<TD VALIGN="TOP">
<P><A HREF="TEMPLATE/belnl97/Main?view=ComplexQuery" TARGET="_top">
<FONT FACE="Helvetica,Arial"><B>&setComplexQueryTEXT;</B></FONT></A><BR>
<FONT FACE="Helvetica,Arial">&setComplexQueryExplanationHTML;</FONT></P></TD>
</TR>
<TR><TD ALIGN="middle" VALIGN="TOP" WIDTH="80">
<A HREF="TEMPLATE/belnl97/Main?view=IndexQuery" TARGET="_top">
<IMG SRC="/basisicons/News/IndexQuery.gif" HEIGHT="25" WIDTH="52"></A></TD>
<TD VALIGN="TOP">
<P><A HREF="TEMPLATE/belnl97/Main?view=IndexQuery" TARGET="_top">
<FONT FACE="Helvetica,Arial"><B>&setIndexQueryTEXT;</B></FONT></A><BR>
<FONT FACE="Helvetica,Arial">&setIndexQueryExplanationHTML;</FONT></P></TD>
</TABLE>
```




Corresponding application procedure

```
sub setMulti {
  my($pOUTPUT)=@_;
  my($lang);
  # remember the language
  $lang = sgFetchFromCtxt($CURRENT_CTXT, 'LANG');
  # fill in the appropriate strings
  if ($lang eq "NL") {
    %$pOUTPUT =
      ( "setSimpleQueryTEXT"    => "Snel zoeken"
        , "setComplexQueryTEXT" => "Uitgebreid zoeken"
        , "setIndexQueryTEXT"   => "Zoeken in de index"
      );
  } else {
    %$pOUTPUT =
      ( "setSimpleQueryTEXT"    => "Recherche simple"
        , "setComplexQueryTEXT" => "Recherche &eacute;tendue"
        , "setIndexQueryTEXT"   => "Recherche dans l'index"
      );
  }
  return 0;
}
```



Using the *Smart Gateway*

- n The *Smart Gateway* development environment
 - contains all the tools required to allow you to create **application-specific procedures**
 - allows you to combine these application-specific procedures with the generic data source access procedures in order to produce a **custom gateway** to any legacy database

- n Examples of other *Smart Gateway* applications:
 - **data entry interface for CELEX** analytical information (notices)
 - integration into the CELEX interface of the **access, query and retrieval** functions to the EUDOR database (Journal Officiel)
 - **consultation of the SCAD** (Système Communautaire d'Accès à la Documentation) European bibliographic database



Benefits of using the *Smart Gateway*

n **Open solution**

- not limited to a single type of database
- based on official or de facto market standards
- works with any UNIX-based Web server (Netscape, Apache)

n **Extensible solution**

- built-in complete scripting language: Perl
- integrates tightly with client-side scripting (JavaScript, ...)
- capable of working with HTML 4.0 / DHTML / XML technology

n **Comprehensive solution**

- template-based HTML page generation
- interface servers for most legacy databases
- user access control, session management, logging, ...