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browse hierarchy into appropriate points in their Web site. Search results are also returned with an institutional look-and-feel.

To make use of RDN-Include the institution must install the RDN-Include CGI script on one of their Web servers. All end-user interaction is handled by this script, thus retaining an institutional URL. If the script is not passed any search parameters, it reads a template file held locally. The template file is essentially a normal HTML or XHTML Web page, formatted with a local look-and-feel. RDN content (the RDN search box and browse hierarchy) is added to this template dynamically at run time by including in it one or more XML 'rdni:tag' elements of the form:

```
<rdni:tag val="RDN*"/>
```

where `*` represents a unique service identifier. These tags are defined in a tag definition file at the RDN. Based on these tags, the RDN-Include CGI script collects appropriate content from the RDN Web server using HTTP. In this way the RDN can update and/or create tags as new services are developed. Any new tags immediately become available to RDN-Include hosts, so the RDN can add new services without the need to update the RDN-Include script installed on each institutional machine.

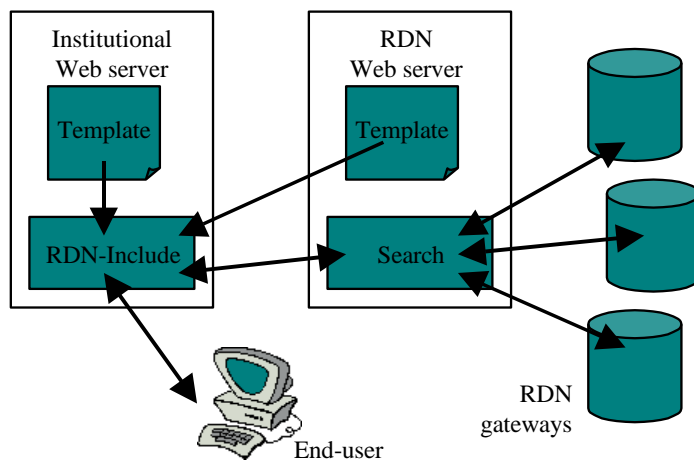**Figure 1: RDN-Include**

If search parameters are passed to the RDN-Include script, it passes these on to a CGI search script running on the RDN Web server. This script cross-searches all the available RDN gateways, using the search protocols defined in the RDN Interoperability and Standards Framework [9], and returns results as 'plain' HTML that can be embedded within the institutional template.

RDN-Include has been implemented as both a Perl CGI script and using ASP.

This approach is:

- *Simple:* installing RDN-Include only requires access to a Web server that supports CGI Perl or ASP,

- *Robust:* failure of the RDN Web server (or network problems) does not prevent the institutional content of the page being displayed,

- *Flexible:* control over the content of the page is shared between the institution and the RDN,

- *Scalable:* the RDN can offer new functionality by developing new RDN-Include 'rdni:tag' elements.

4. THE RDNI-LITE SOLUTION

One problem with the approach provided by RDN-Include is the need for the support of the Web server administrator, since it requires the installation of a CGI Perl or ASP script. System administrators have legitimate concerns over the security of third-party scripts. In addition there may be local political barriers to the deployment of such scripts.

An alternative approach is to develop an RDN-Include solution that can be deployed directly by HTML authors. RDNi-Lite provides this solution through the use of JavaScript.
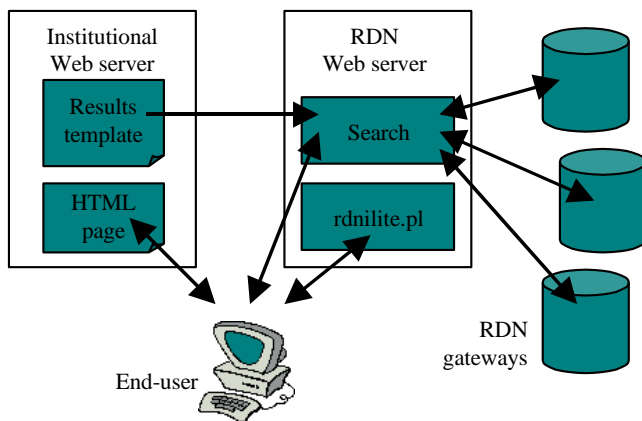

Figure 2: RDNi-Lite

To make use of RDNi-Lite, an HTML author simply has to embed a Javascript <script> element into a normal HTML page. The 'src' attribute of the script element points to a CGI Perl script running on the RDN Web server. The CGI script generates a set of document.write() JavaScript statements that, when executed by the Web browser, embed the appropriate RDN content into the Web page. The CGI script takes several optional arguments that provide 'rdni:tag' parameters. The search form generated by the script calls a separate search CGI script hosted by the RDN that will, optionally, gather a template file from the local Web server in order to format results with a particular look-and-feel.

This approach means that there is no need for the owner of the Web page to have access privileges to install a CGI Perl or ASP script. However, it does require that Javascript be enabled in the Web browser.

5. APPLICATION TO NEWS FEEDS

In a related set of activities, we have developed a Web service called RSS-xpress [10], which provides a suite of CGI tools for creating, updating, parsing and viewing RDF Site Summary (RSS) [11] files. RSS is an XML application for sharing metadata about 'news' content in the form of RSS channels. In many cases, adding support for remote RSS channels to your Web site involves installing and configuring a CGI RSS viewer software that gathers one or more remote RSS channels and displays them as HTML (typically embedded within other local content). We are currently working on a lightweight mechanism for embedding RSS channels in HTML pages using the same techniques adopted for RDNi-Lite. By using a Javascript <script> element that points to a remote CGI-based RSS parser, HTML page authors will be able to embed 'news' content into their pages dynamically without needing to install Perl scripts, PHP, ASP or other local scripting technologies.

6. CONCLUSIONS

Our work on RDN-Include has convinced us of the benefits of offering RDN content in a form that allows others to embedded it within local services. However, even the minimal technical requirements of RDN-Include present a significant hurdle for some service providers. It is hoped that the development of lightweight solutions that can be used directly by HTML authors, such as RDNi-Lite, will overcome some of these problems and encourage the use of shared content.

7. REFERENCES

[1] Resource Discovery Network, http://www.rdn.ac.uk/

[2] SOSIG, http://www.sosig.ac.uk/

[3] EEVL, http://www.eevl.ac.uk/

[4] BIOME, http://biome.ac.uk/

[5] HUMBUL, http://www.humbul.ac.uk/

[6] PSIgate, http://www.psigate.ac.uk/

[7] DESIRE Information Gateways Handbook http://www.desire.org/handbook/

[8] RDN-Include: Why send users to the RDN when the RDN can come to you? http://www.rdn.ac.uk/rdn-i/

[9] RDN Interoperability and Standards Framework http://www.rdn.ac.uk/publications/interop-standards

[10]RSS-xpress http://rssxpress.ukoln.ac.uk/

[11]RDF Site Summary (RSS) 1.0 http://purl.org/rss/1.0/