Scope

- Publish information
- Announce that information
- Find that information
- And finally consume it
Techniques

- DNS-SD via Avahi for publication
- HTTP(S) via libsoup and gnutls for transport
Motivation

- Make Glom network aware
Database Chooser in Glom

Open or create a Document

Open Existing Document  Create New Document

- Select File
- Local Network

Music Collection on murrayc-x61.local (via eth1)

- Recently Opened
  - sbe-bug.glom
  - sbe-new.glom
  - sbe-dnd.glom
  - New8.glom

Hilfe  Beenden  Select
Motivation

- Share things like Totem playlists
Playlist Sharing in Totem
Playlist Sharing in Totem
Motivation

- We are Desktop hackers, not networking experts.
Motivation

• Want some simple API.
Approach

• Let's create some simple Network HashTable.

Openismus
Consumer: Example

c consumer =
    epc_consumer_new_for_name ("kitchen");

value = epc_consumer_lookup
    (consumer, "cake", &length, &error);

if (value)
    g_print ("%s (%d)\n", value, length);
else
    handle_error (&error);
Publisher: Example

publisher = epc_publisher_new
   ("Tasty Cakes", "kitchen", NULL);

epc_publisher_add
   (publisher, "cake", "lots of sugar", -1);

epc_publisher_run (publisher);
Publisher: Example

```c
publisher = epc_publisher_new ("Tasty Cakes", "kitchen", NULL);

epc_publisher_add (publisher, "cake-picture", image_data, image_length);

epc_publisher_run (publisher);
```
Publisher: Example

publisher = epc_publisher_new ("Tasty Cakes", "kitchen", NULL);

epc_publisher_add_file (publisher, "cake-recipe", "recipe.txt");

epc_publisher_run (publisher);
Publisher: Example

publisher = epc_publisher_new ("Tasty Cakes", "kitchen", NULL);

epc_publisher_add_handler (publisher, "cake-status", cake_status_handler, self, NULL);

epc_publisher_run (publisher);
static EpcContents* timestamp_handler (EpcPublisher *publisher, const gchar *key, gpointer data)
{
    /* ... */

    return epc_contents_new ("text/plain", buffer, length, g_free);
}
Publisher: Authorization

- `epc_publisher_set_auth_handler(key, handler)`
- `epc_auth_context_get_key()`, `epc_auth_context_check_password(password)`
- `epc_auth_context_get_password()`, “auth_flags” property
Publisher: Collision Handling

- "collision-handling" property:
  - EPC_COLLISIONS_IGNORE
  - EPC_COLLISIONS_CHANGE_NAME
  - EPC_COLLISIONS_UNIQUE_SERVICE
Publisher: Certificates

- `epc_publisher_set_credentials (certfile, keyfile)`
Publisher: Miscellaneous

- epc_publisher_set_contents_path(path)
- epc_publisher_add_bookmark(key, label)
- epc_publisher_expand_name(name)
- “protocol” property
Consumer: Lazy Publisher Lookup

- bool resolve_publisher(timeout)
- bool is_publisher_resolved()
- "publisher-resolved" signal
Consumer: Authentication

- “username” and “password” property
- “authenticate” signal
Consumer: Miscellaneous

- epc_consumer_list (pattern)
- “protocol” property
monitor = epc_service_monitor_new ("kitchen", NULL, EPC_PROTOCOL_UNKNOWN);

g_signal_connect (monitor, "service-found",
    G_CALLBACK (service_found_cb), NULL);

g_signal_connect (monitor, "service-removed",
    G_CALLBACK (service_removed_cb), NULL);

g_main_loop_run (loop);
dispatcher = epc_dispatcher_new ("Dead Tree Desecrator");

epc_dispatcher_add_service (dispatcher, EPC_ADDRESS_IPV4, ",ipp._tcp", NULL, NULL, 651, ",path=/printers", NULL);

epc_dispatcher_run (dispatcher);
dispatcher = epc_dispatcher_new ("Dead Tree Desecrator");

epc_dispatcher_add_service
  (dispatcher, EPC_ADDRESS_UNSPEC,
   "_duplex._sub._printer._tcp",
   NULL, NULL, 515, NULL);

epc_dispatcher_run (dispatcher);
Widgets: Progress Window

- `epc_progress_window_install` (parent)
Widgets: Password Dialog

Authentication required.

Data source *Easy Publisher Test*
requires authentication before permitting access.

Username: mathias

Password:

Abbrechen   Verbinden
Future

- Improved certificate validation.
- Change Notifications?
- Allow the client to update the HashTable?
Links

• More Information:
  http://live.gnome.org/libepc

• Examples:
  http://svn.gnome.org/viewvc/libepc/trunk/examples/

• Reference Manual:
  http://library.gnome.org/devel/libepc-1.0/unstable/
Questions?