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Flash Communication Server MX
Collaborative Data Management *with Kevin Towes*

What we're going to cover

- > The Flash Communication Server - Intro - The Technology Model
- > Demo the Project Proxy
- > Demo the Secure Ticketing
- >> Shared Object Primer <<
- > Demo the Collaborative Application



Name Please! FCS Server:

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If you are interested in Formal Training in the Flash Communication Server MX

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What is Flash Communication Server?

- Collaborative Applications (i.e. Messengers, Gaming)
- Media Streaming Server (i.e. Real Audio, Quicktime, Windows Media)
- Powerful Synchronization Technology

Examples...

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What is Flash Communication Server?



<http://www.digitalsamba.com/>

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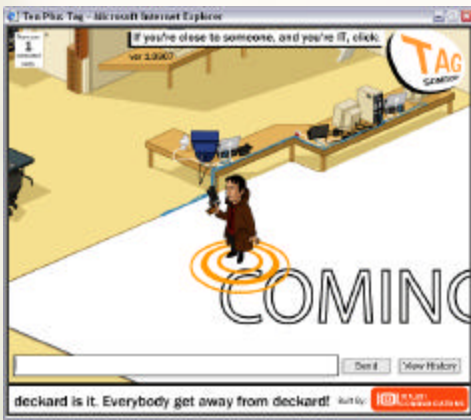
What is Flash Communication Server?



<http://www.teknision.com/>

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What is Flash Communication Server?



<http://www.10plus1.com/>

What is Flash Communication Server?



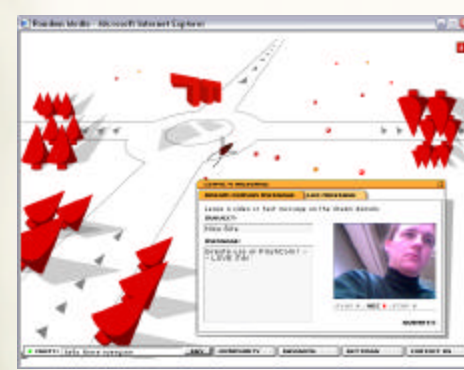
<http://fultonny.da.ru/>

What is Flash Communication Server?



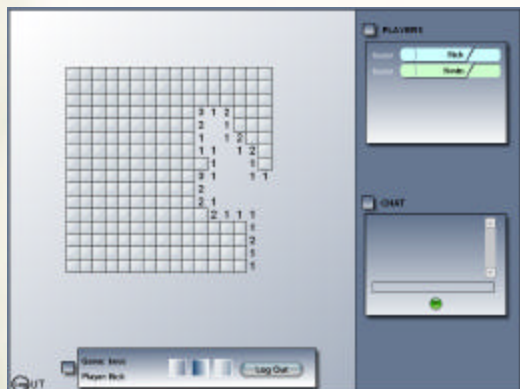
<http://faces.bascule.co.jp/yeti/>

What is Flash Communication Server?



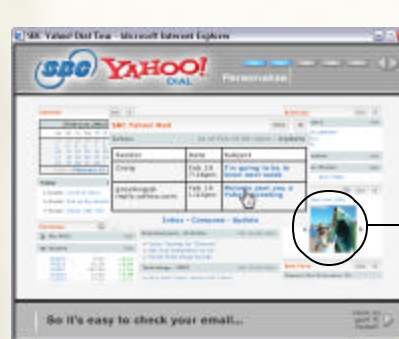
<http://www.randommedia.co.uk/>

What is Flash Communication Server?



<http://echo.yerson.ca/>

What is Flash Communication Server?



Video content is provided by Reuters, the Associated Press, AccuWeather.com, and Yahoo!'s entertainment properties, including movie trailers and celebrity interviews from Yahoo!

<http://sbc.yahoo.com/>



What is Flash Communication Server?



url not available



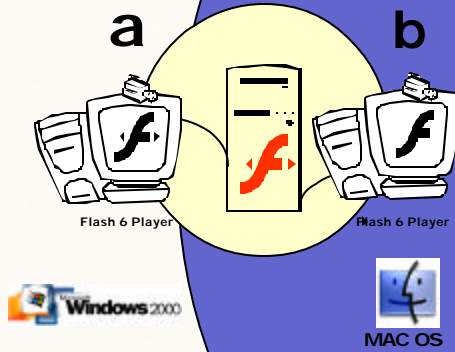
What is Flash Communication Server?

Simply Put...

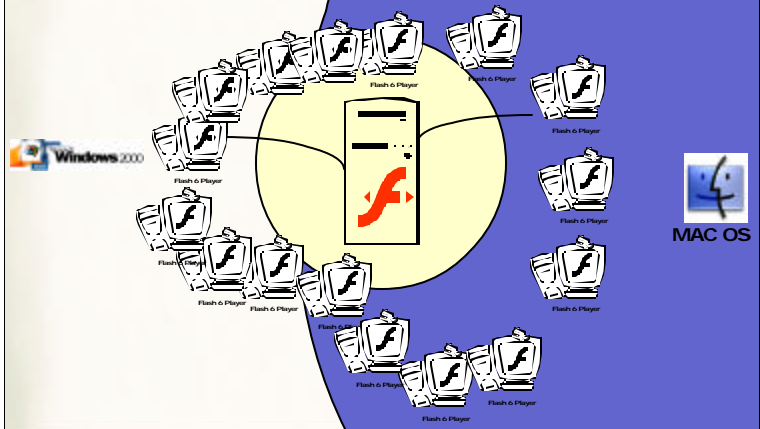
FlashCom is a server technology that connects Multiple Flash Players together.



What is Flash Communication Server?

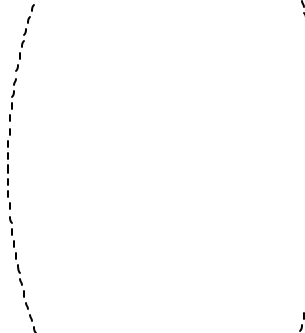


What is Flash Communication Server?



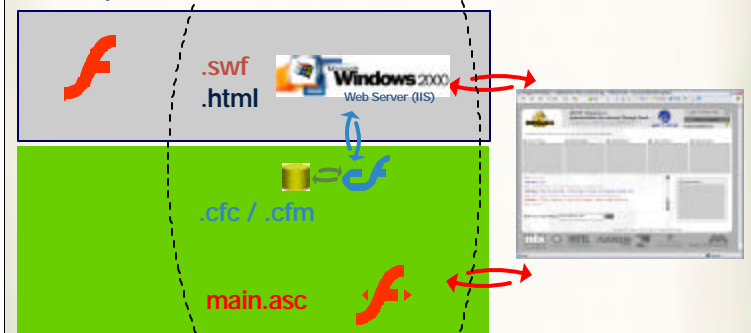
the Basic FlashCom Model

Development Server Your User

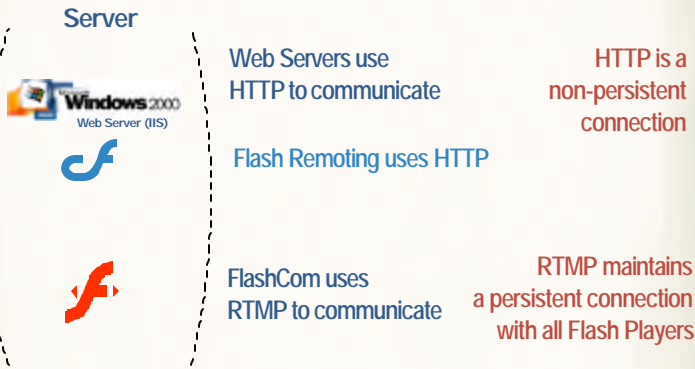


Extending FlashCom with Flash Remoting

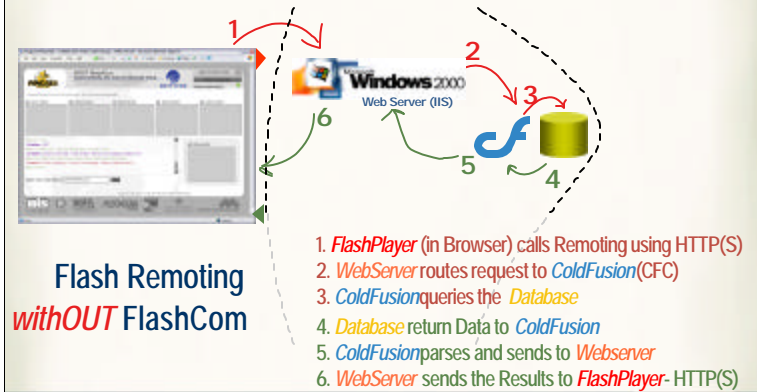
Development Server Your User



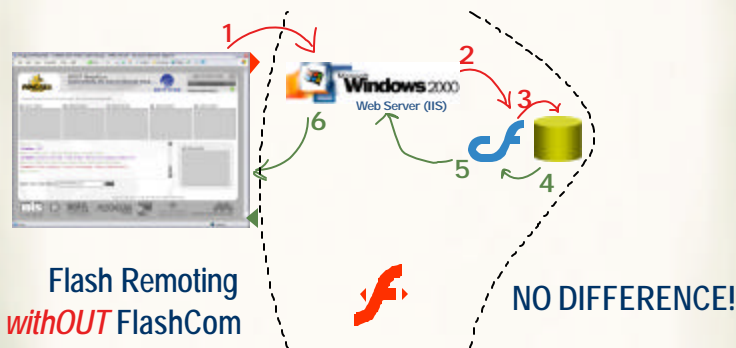
Flash Remoting VS. FlashCom Server



Understanding Flash Remoting



Understanding Flash Remoting



The Basic Principles of FlashCom Applications

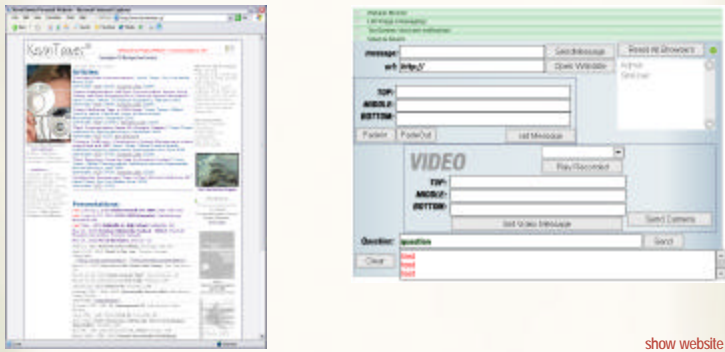
- 1 **Connection**
 - NetConnection
 - LocalConnection (non-FlashCom)
- 2 **Streaming**
 - NetStream
- 3 **SharedObject**
 - Remote SharedObject
 - Local SharedObject (Flash Cookies)
- 4 **Information Objects**
 - Communicating Changes between Flash Players and the FlashCom Server

Lets look at some examples:

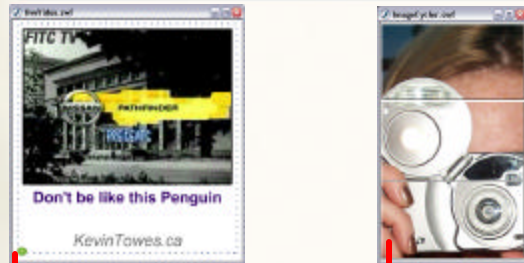
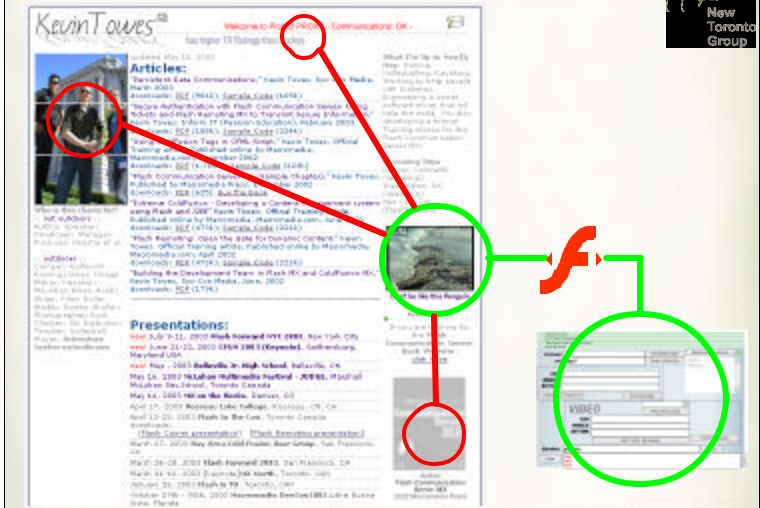
- 1 **Project Proxy**
 - using Remote and Local Connections to control Flash widgets on a single page
- 2 **Secure Ticking**
 - using Flash Remoting, Flash Comm and ColdFusion to secure access
- 3 **Persistent Data**
 - using Flash Remoting, Flash Comm and the Remote SharedObject model

1 Project Proxy

using Remote and Local Connections to control Flash widgets on a single page



show website



```
my_lc.connect("liveVideo");
```

```
my_lc.connect("ImageCycler");
```



```
my_lc.connect("KTHHeader");
```

```
my_lc = new LocalConnection();
my_lc.connect("KTHHeader");

my_lc.initialize = function(info_str) {
    _root.message_txt.text = info_str;
};

my_lc.getURL = function(url_str) {
    message_txt.text = "You've been sent to: "+url_str;
    getURL(url_str, "_blank");
};

my_lc.resetBrowser = function() {
    getURL("index.cfm");
};

my_lc.openQuestion = function(question_str) {
    _root.attachMovie("question", "question_mc", 0);
    question_mc["_x"] = 205; question_mc["_y"] = 0;
    _root.question_mc.question_txt.text = question_str;
};
```

1 Connect to the Flash Comm Server

```
myConnection_nc = new NetConnection();
myConnection_nc.connect("rtmp://kevsSite/myInstance", "SiteUser");
```

2 Establish a Local Connection with other Flash Objects

```
my_lc = new LocalConnection();
my_lc.connect("liveVideo");
```

3 Create a method that will relay messages from FCS to the Local Flash Objects

```
SharedObject.prototype.proxySend = function(consumer, method, arg1, arg2)
{
    my_lc.send(consumer, method, arg1, arg2, arg3);
};
```



```
setText = function () {
    my_so.send("proxySend", "ImageCycler", "lc_setText", top_txt.text, "top_txt");
    my_so.send("proxySend", "ImageCycler", "lc_setText", mid_txt.text, "mid_txt");
    my_so.send("proxySend", "ImageCycler", "lc_setText", bot_txt.text, "bot_txt");
};

openSite = function () {
    my_so.send("proxySend", "KTHHeader", "lc_getURL", url_txt.text);
};


setVideoMessage = function () {
    my_so.send("proxySend", "liveVideo", "lc_setText", vidTop_txt.text, "top_txt");
    my_so.send("proxySend", "liveVideo", "lc_setText", vidMid_txt.text, "mid_txt");
    my_so.send("proxySend", "liveVideo", "lc_setText", vidBot_txt.text, "bot_txt");
};

reset = function () {
    my_so.send("proxySend", "KTHHeader", "lc_resetBrowser");
};

sendQuestion = function () {
    my_so.send("proxySend", "KTHHeader", "lc_openQuestion", question_txt.text);
};
```

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2 Secure Ticking using Flash Remoting, Flash Comm and ColdFusion to secure access



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2 Secure Ticking using Flash Remoting, Flash Comm and ColdFusion to secure access

The Problem...

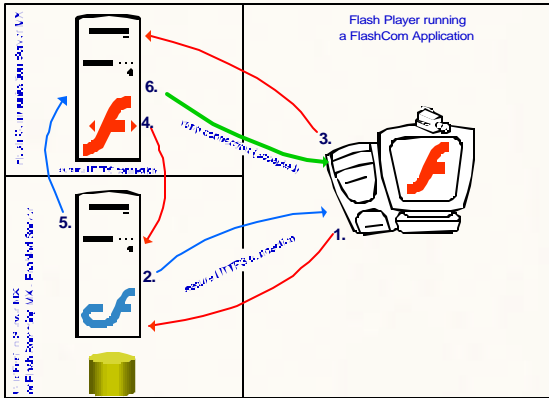
Sending secure Login information to FCS to authenticate a connection request

!! RTMP is insecure !!

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The Solution...

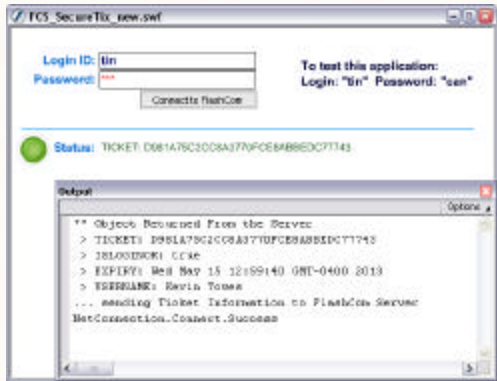


Flash Player running a FlashCom Application

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2 Secure Ticking using Flash Remoting, Flash Comm and ColdFusion to secure access



show FlashDemo

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1. Show Flash AS: (login_init)
2. Show CFC: authenticateUser(); & setTicket()
3. Show Flash AS: requesting a connection
4. Show SSAS: handling request
5. Show CFC: findTicket();

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3 Persistent Data

using Flash Remoting, Flash Comm and the Remote SharedObject model

3 Persistent Data

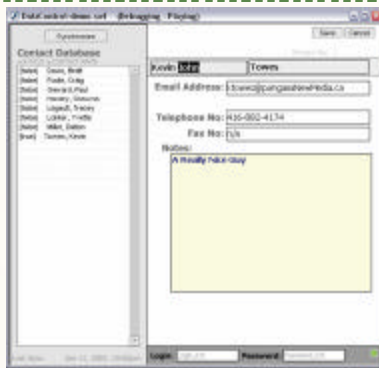
using Flash Remoting, Flash Comm and the Remote SharedObject model

The Problem....

Pushing database updates to the user in real time - and Locking records -

3 Persistent Data

using Flash Remoting, Flash Comm and the Remote SharedObject model



SharedObject Programming Model

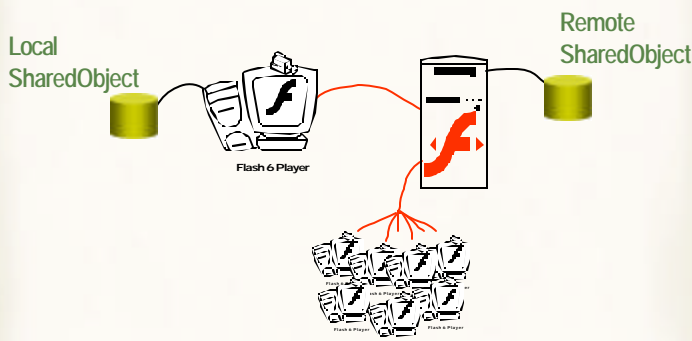
SharedObjects have two purposes on the Planet:

- 1. Share Data & ActionScript Objects between Multiple Flash Players
- 2. Invoke Functions on Remote Flash Players

SharedObjects are available in 2 places:

- 1. LOCAL SharedObjects (Flash Cookies) are stored on the Client
- 2. REMOTE SharedObjects are stored on the Server

SharedObject Programming Model



SharedObject Programming Model

What can put inside a SharedObject?

- Simple Variables
- Objects
- Arrays
- Arrays of Objects
- RecordSets
- Functions

} Any ActionScript Object



SharedObject Programming Model RemoteSO



Connect

```
remote_so = SharedObject.getRemote("FITO_Sample", my_nc.uri, true);
remote_so.connect(my_nc);
```

Define a Slot

```
remote_so.data["myVar"] = "Kevin Was here";
```

Access it

```
trace("Data: "+remote_so.data["myVar"]);
```



Now lets move on with the demo...



Now lets move on with the demo...



1. FCS Remote SharedObject
2. SLOTS 101
3. Converting a RecordSet into a Slot Structure
4. Handling Slot change information objects



The FCS SharedObject SLOT

- > A Slot is a property of the data Property
- > Slots are monitored by FCS
- > When a Slot value changes, FCS informs the players
 - > name of the slot that has changed
 - > code value (changed, success,
- > to set a slot value: `my_so.data["property"]=value;`



result_rs RecordSet Object

name	
id	0
phone	416-353-1800
fax	416-353-1800
url	http://www.newtoronto.com
email	newtoronto@newtoronto.com
address	100 Lakeshore Blvd. E, Suite 1000
city	Toronto
province	ON
country	Canada
postal_code	M5H 3L3
lat	43.6495
lon	-79.3753
created	2005-01-25 10:12:13
updated	2005-01-25 10:12:13
status	1
deleted	0
modified	0
active	1

contact_recordSet_so SharedObject

code	1
name	contact_recordSet_so
url	http://www.newtoronto.com
email	newtoronto@newtoronto.com
phone	416-353-1800
fax	416-353-1800
address	100 Lakeshore Blvd. E, Suite 1000
city	Toronto
province	ON
country	Canada
postal_code	M5H 3L3
lat	43.6495
lon	-79.3753
created	2005-01-25 10:12:13
updated	2005-01-25 10:12:13
status	1
deleted	0
modified	0
active	1

- callTheServer = cf_service.getAllRecords();

```
// *** handle the server response
this.getAllRecords_Result = function(result_rs) {

serverData_so.setProperty("result_rs", result_rs);
serverData_so.setProperty("contactDb_columnNames", result_rs.getColumnNames());

for (item in result_rs.items) {
// Test for a Valid record item
isRecord = result_rs.items[item].__ID__ != undefined;

// If the record is valid - then copy it into the SharedObject
if (isRecord) {
contact_recordSet_so.setProperty(item, result_rs.items[item]);
}
}
}
```

```
createLocalRecordSet = function () {
```

```
// RecordSet FieldNames
fieldNames_array = remote_so.data["contactDb_columnNames"];

// Local Recordset
my_rs = new RecordSet(fieldNames_array);

// Purge the RecordSet
my_rs.removeAll();

// copy the RecordData into a local RecordSet to make it easier to work with
for (slot in contact_recordSet_so.data) {
my_rs.addItem(contact_recordSet_so.data[slot]);
}
updateList();
}
```

```
SO_onSync = function (info) {
slotToChange = info[0].name;
if (info[0].code == "change") {
var updatedRecord_obj = contact_recordSet_so.getProperty(slotToChange);

// Check the Locking Value for Status messages
switch (updatedRecord_obj.isLocked) {

case "save":
// change the state of the isLocked value
updatedRecord_obj.isLocked = false;

// write the changed record back to the Shared Object
contact_recordSet_so.setProperty(slotToChange, updatedRecord_obj);

// the properties within the object contain the changed record
cf_service.doUpdate(updatedRecord_obj);

// now update all players
contact_recordSet_so.send("SO_messages", "updateLocal", "Server");
break;
}
```

```
SO_messages = function (command, source) {
```

```
doServerUpdate = source == "Server";
if (doServerUpdate) {
switch (command) {
case "updateLocal" :
createLocalRecordSet();
}
}
};
```