

# ColdBox Platform



- 
- 4.0 AND BEYOND

# Who am I?

- **ColdFusion Architect (12 years)**
- **Geek**
- **Android Lover**
- **Blogger ([codersrevolution.com](http://codersrevolution.com))**
- **ColdBox Platform Evangelist**
- **Musician**
- **Shade-Tree Mechanic**
- **Husband (11 years)**
- **Dad (3 beautiful girls)**





# What we will cover?

- **History of ColdBox**
- **What is ColdBox?**
- **Why ColdBox?**
- **Major ColdBox Parts**
- **Demos**



# History & Facts

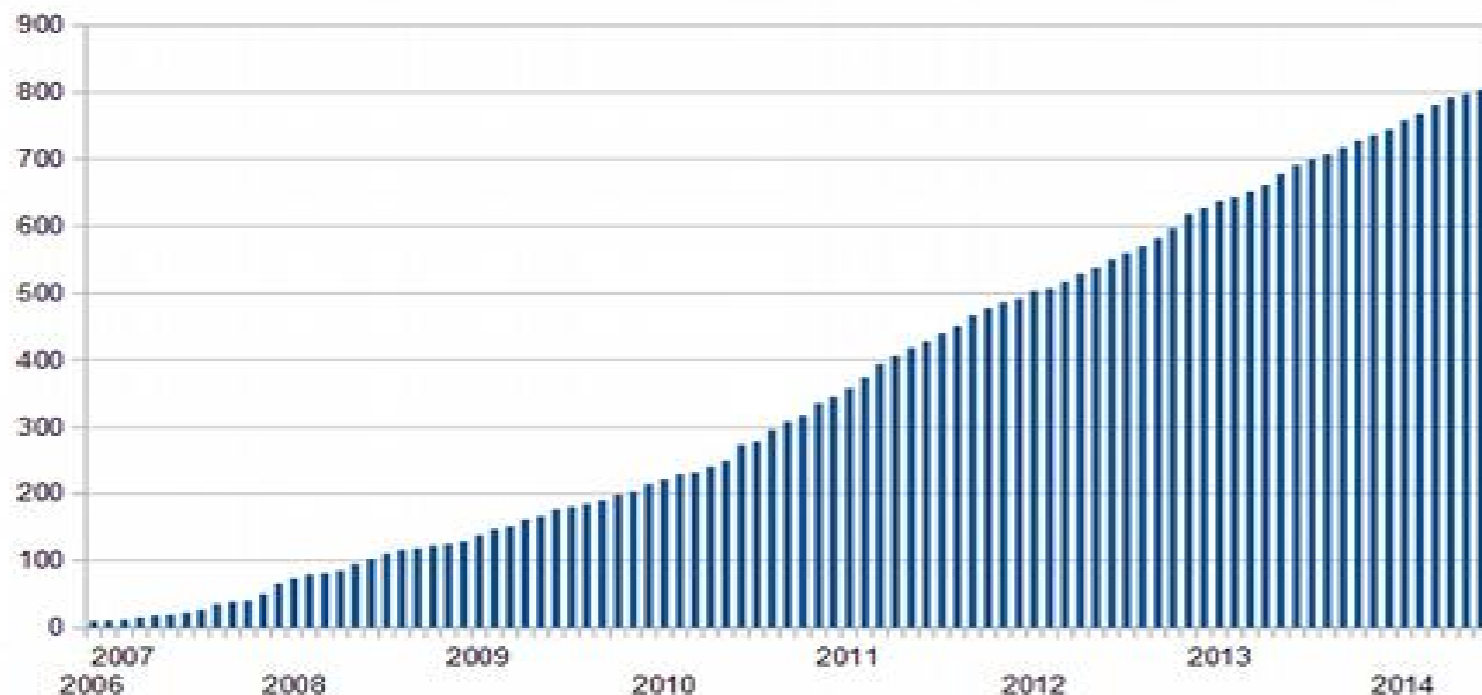
- ✦ Did not start as open source
- ✦ Designed and built for a high availability application in 2005
- ✦ 1st Conventions CFML Framework in 2006
- ✦ 30 releases -> 3.8.1
- ✦ Active roadmap, collaboration & development
- ✦ High-profile company adoptions



# Community

- **Large and Active Community**
- **Incredible download rates**
- **Mailing List & Forums growth**
- **Many hours of video training**
- **ForgeBox : ~~\*Box~~ CFML Community!**
  - **Share modules, plugins, interceptors, contentbox, etc**

ColdBox Mailing List Growth



# Professional Open Source

- **Company backing and funding**
- **Professional Training Courses**
- **Books**
- **Support & Mentoring Plans**
- **Architecture & Design Sessions**
- **Server Tuning & Optimizations**
- **Code Reviews & Sanity Checks**
- **Dancing lessons**



# Why use a framework?

- ✦ **Common Vocabulary**
- ✦ **Separation of Concerns**
- ✦ **Tested in multiple environments**
- ✦ **Performance-tuned**
- ✦ **Reduces ramp up time for new developers**
- ✦ **Do not reinvent the wheel**
- ✦ **Should address most infrastructure concerns**
- ✦ **Increases Maintainability, Scalability, and keeps your sanity!**

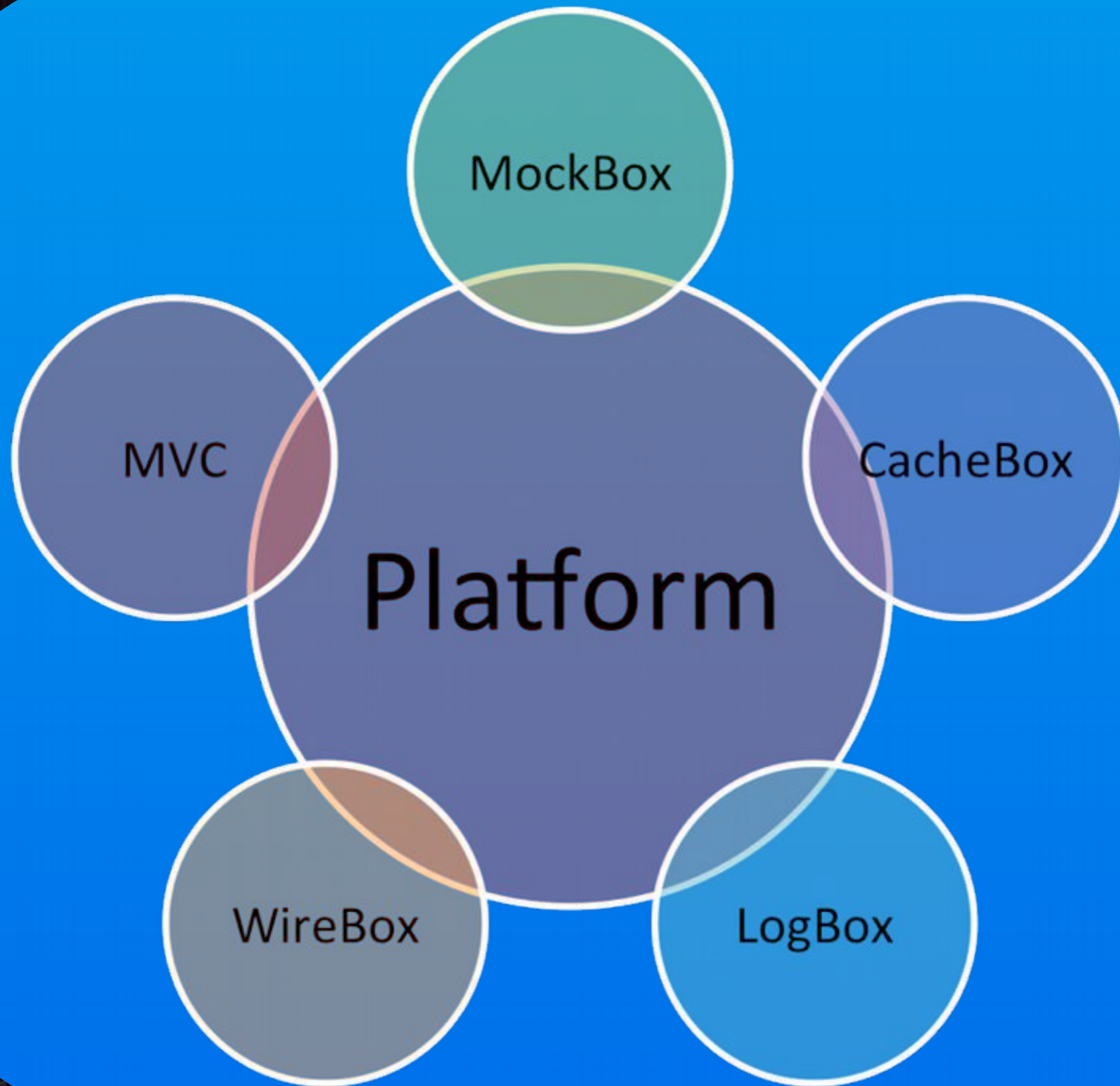


# What is ColdBox?



**A place for  
root beer?**



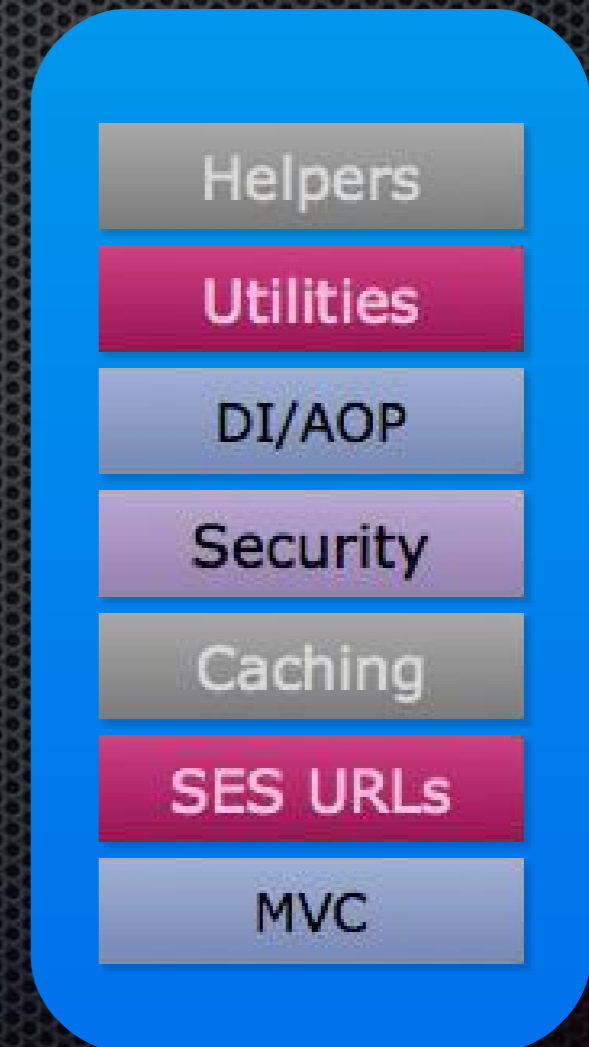


**“Address most infrastructure concerns of typical ColdFusion applications”**



# How we build our apps?

- ✦ Usually start with a need for MVC
- ✦ Requirements are more than just MVC
- ✦ MVC is not enough
- ✦ What about?
  - ✦ SES/URL Mappings
  - ✦ RESTful Services
  - ✦ Multiple GUIs
  - ✦ Caching
  - ✦ Object Creation
  - ✦ Security/Logging/Auditing
  - ✦ i18n
  - ✦ Testing
  - ✦ Modularity & Extensibility



# Reinvent the wheel?

- **Golden Rule Of Software**
  - **IT CHANGES!**
  - **We need to adapt**
- **Loose Time**
- **Loose Patience**
- **Loose Hair!**





# ColdBox To The Rescue

Modularity

Extensibility

Utilities



Scalability

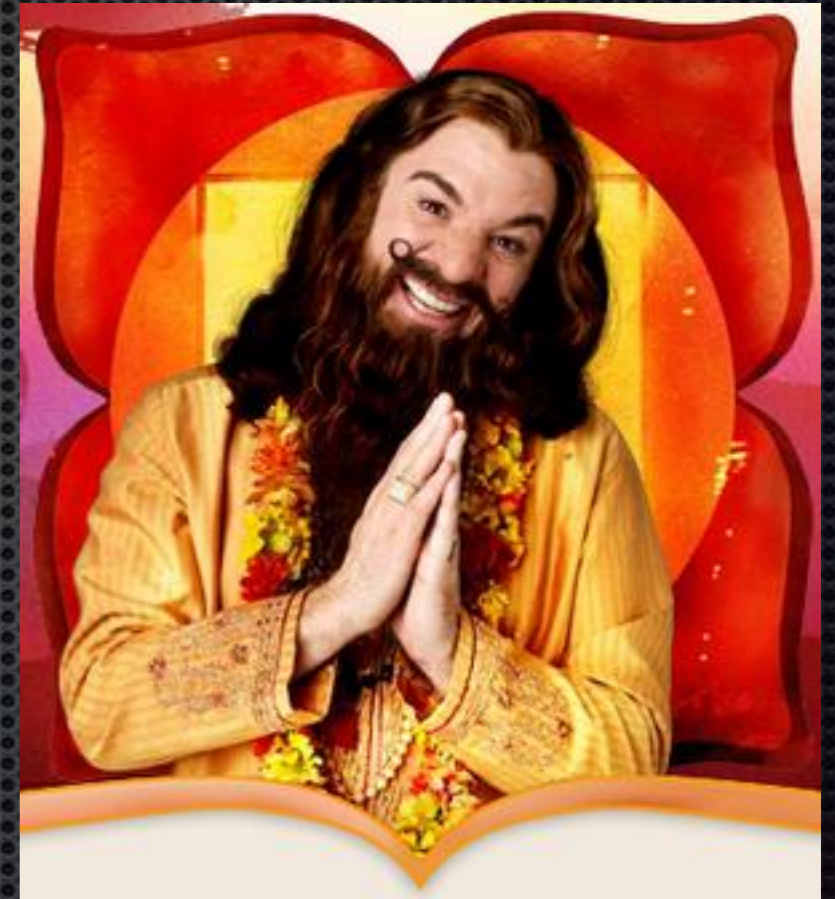
Flex/Ajax

Debuggers



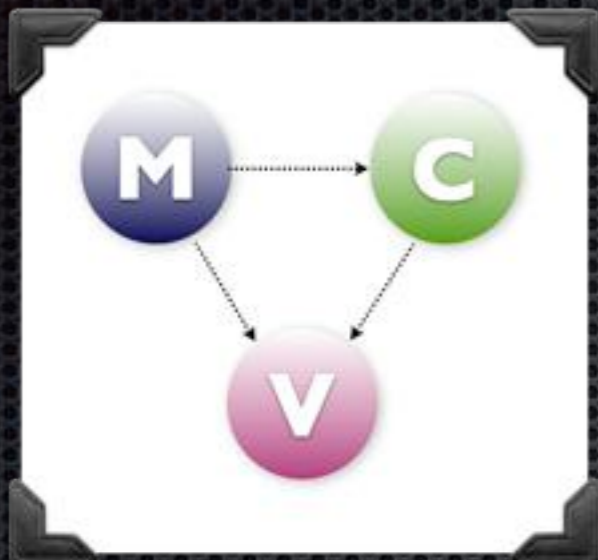
# From simple to guru

- ✦ **Start with simple MVC**
- ✦ **Add more parts as your application evolves**
- ✦ **Pieces are brought on demand**
- ✦ **Use what you need**
- ✦ **Remember that software requirements ALWAYS change**
- ✦ **Plan ahead**





# Core MVC



- ✦ **Conventions over Configuration**
  - ✦ **Events**
  - ✦ **Models**
  - ✦ **Views**
  - ✦ **Much More...**
- ✦ **Layout/Skinning engine**
- ✦ **HTML helper & generator**
- ✦ **Validation**
- ✦ **Data Transformers**
  - ✦ **JSON, XML, WDDX, PDF**
- ✦ **RESTful services**



# Code in CFML

```
1 <cffunction name="dspAddFeed" access="public" return
2 <cfargument name="Event" type="coldbox.system.be
3 <cfset var csPlugin = getPlugin("clientstorage"
4 <cfset var obj = "">
5 <cfset var rc = Event.getCollection()>
6 <!--- EXIT HANDLERS: --->
7 <cfset rc.xehAddFeed = "ehFeed.doAddFeed">
8 <cfset rc.xehNewFeed = "ehFeed.dspAddFeed">
9
10 <!--- Feed Validated? --->
11 <cfset rc.feedValidated = false>
12
13 <!--- Try to parse feed --->
14 <cfif Event.getValue("continue_button","") neq ""
15 <!--- Validate Feed --->
16 <cfif trim(len(rc.FeedURL)) eq 0 or not getP
17 <cfset getPlugin("messagebox").setMessag
18 <cfelse>
19 <cftry>
20 <cfset obj = getPlugin("ioc").getBea
21 <!--- Verify Feed in --->
22 </cftry>
23 </cfif>
24 </cfunction>
```

- ✦ **Simple CFCs**
- ✦ **Non-Intrusive, ColdBox is just an API**
- ✦ **New Event, New Function (Easy!)**
- ✦ **Drop And Play**
- ✦ **Flexible, Extensible and Reusable**

# Event Handler

```
component{  
  
  // Dependencies  
  property name="myService" inject;  
  
  function index( rc, prc, event ){  
    rc.welcome = "Welcome to my awesome site";  
    event.setView("main/index");  
  }  
  
  function sayHello( rc, prc, event ){  
    return "<h1>Hello Buddy!</h1>";  
  }  
  
  function renderJSON( rc, prc, event ){  
    event.renderData(data=myService.getData(), type="JSON");  
  }  
  
}
```



# View



```
<cfoutput>
```

```
  <h1>ColdBox Sez...</h1>
```

```
  #rc.welcome#
```

```
</cfoutput>
```

# ORM Integration

- ✦ **Virtual service layers**
  - ✦ **GORM-inspired**
  - ✦ **More functionality than what CF exposes**
  - ✦ **Caching**
  - ✦ **Hibernate criteria queries and projections**
  - ✦ **Hibernate metadata**
- ✦ **ActiveEntity**
  - ✦ **Self Validation**
  - ✦ **Self Querying**
  - ✦ **Much more**
- ✦ **Hibernate interceptors to ColdBox interceptors bridge**



# Active Entity

```
import coldbox.system.orm.hibernate.*;

component persistent="true" extends="ActiveEntity" {
    // Properties
    property name="firstName";
    property name="lastName";

    // Validation Constraints
    this.constraints = {
        firstName = {required=true},
        lastName = {required=true}
    };
}
```

# Active Entity

```
user = entityNew( "User" );
```

```
user.list( sortOrder="lastName" );
```

```
user.get( rc.id );
```

```
user.validate();
```

```
user.save();
```

```
user.deleteById( rc.id );
```



# IDE-Debugging Tools



- ✦ **ColdFusion Builder Extension**
- ✦ **Code & Tests generation**
- ✦ **Documentation Search**
- ✦ **Auto-Update**
- ✦ **Code Snippets & Insight**
- ✦ **Execution-Cache Monitors**
- ✦ **Intercept Flex/Air/Ajax/REST**

Framework Info: ColdBox 2.0.2 Phlipians 3.7-11  
Application Name: coldbox (production)  
Application Memory: 24,834 KB / 47,948 KB (Free/Total)  
Application Start Time: Jul-11-2007 12:01:45 AM  
Application Version String: fwreint=1  
Server Instance: jfetmac  
Current Event: ehGeneral.dspHello  
Current Layout: Layout.Main.cfm  
Current View: vwHello

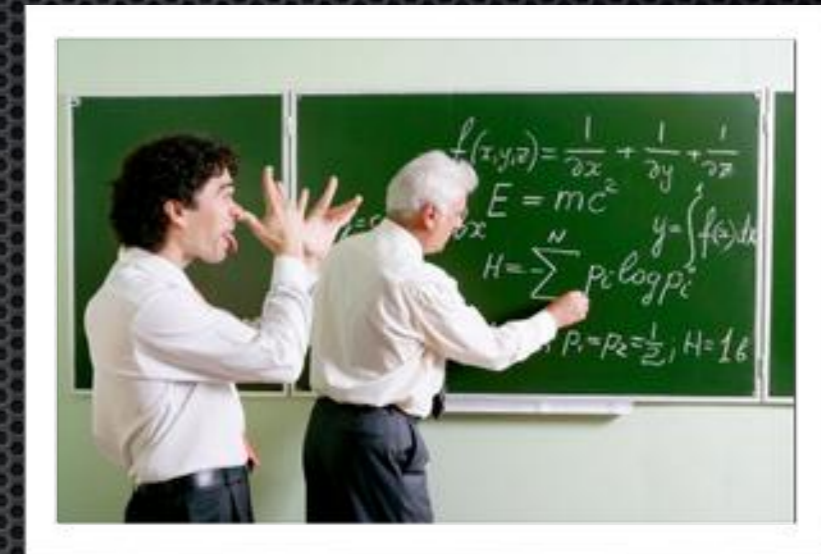
Framework Method execution times in execution order.

Timestamp	Execution Time	Framework Method	RC Snapshot
12:01:43.743 AM	19 ms	invoking runEvent [ehGeneral.onApplicationStart]	<a href="#">View</a>
12:01:43.757 AM	10 ms	invoking runEvent [preHandler] for ehGeneral.dspHello	<a href="#">View</a>
12:01:44.161 AM	5 ms	New instance Creation	--
12:01:44.543 AM	56 ms	Rendering View [vwQuote.cfm]	--
12:01:44.544 AM	786 ms	invoking runEvent [ehGeneral.dspHello]	<a href="#">View</a>
12:01:44.551 AM	7 ms	invoking runEvent [postHandler] for ehGeneral.dspHello	<a href="#">View</a>
12:01:45.66 AM	199 ms	Rendering View [navigation.cfm]	--
12:01:45.330 AM	38 ms	Rendering View [datasourcedump.cfm]	--
12:01:45.331 AM	265 ms	Rendering View [vwHello.cfm]	--
12:01:45.345 AM	792 ms	Rendering Layout [Layout.Main.cfm]	--



# Testing/Mocking

- ✦ **TestBox Unit and BDD testing**
  - ✦ **Plugins**
  - ✦ **Interceptors**
  - ✦ **Handlers**
  - ✦ **Model Objects**
- ✦ **Integration Testing & Automation**
- ✦ **Ability to simulate queries**
- ✦ **Mocking via MockBox**



# Integration Testing

```
component extends="coldbox.system.testing.BaseTestCase" appMapping="" {
    function run(){
        describe( "myHandler Suite", function(){
            beforeEach(function( currentSpec ){
                setup();
            });

            it( "index", function(){
                var event = execute( event="myHandler.index", renderResults=true );
                // expectations go here.
            });
        });
    }
}
```

# Model Testing

```
component extends="coldbox.system.testing.BaseModelTest" model="myService"{
    function beforeAll(){
        super.setup();
        model.init();
    }
    function run(){
        describe( "myService Suite", function(){
            // Create your specs here
        });
    }
}
```

# Beyond the basics!



**There's more?**

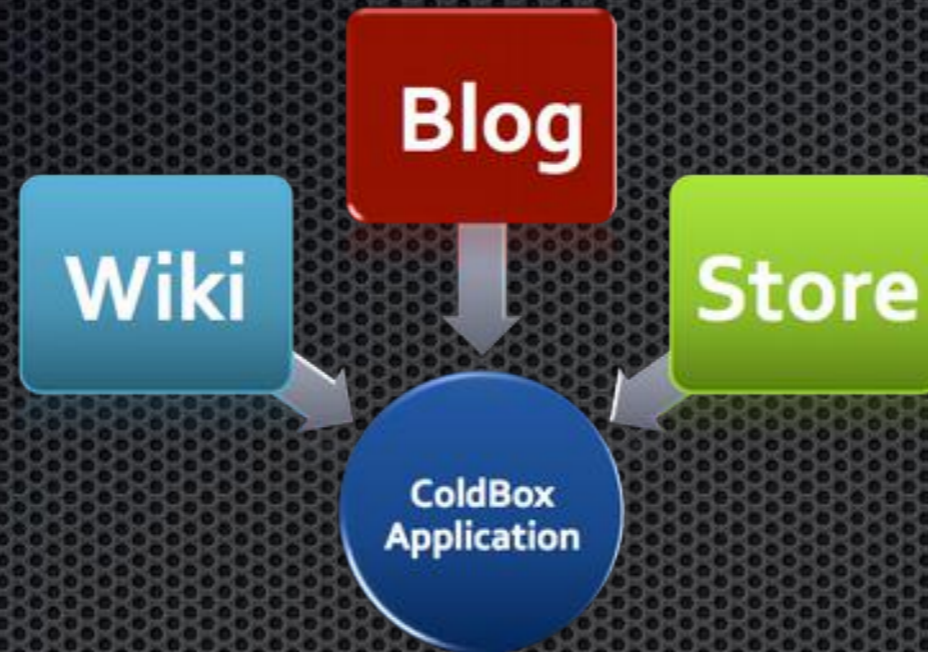


# Validation

```
component persistent="true" {  
  
    ...  
  
    // Validation  
    this.constraints = {  
        fname = { required = true },  
        lname = { required = true },  
        username = {required=true, size=6-10},  
        password = {required=true, size=6-8},  
        email = {required=true, type="email"},  
        age = {required=true, type="numeric", min=18}  
    };  
}
```

```
// In Handler  
var validationResult = validateModel(obj);  
if( validationResult.hasErrors() ){  
    // error stuff  
    prc.errors = validationResult.getAllErrors();  
}  
else{  
    // validation success  
}
```

# ColdBox Modules



- ✦ **Modular Architecture instead of monolithic applications**
- ✦ **Extend any application in pieces**
- ✦ **Build standalone or module applications**
- ✦ **Drop and play by conventions**
- ✦ **API: Turn on/off/load/reload or install modules**

# Module Service API



**ColdBox Modules**

[Reload All](#) [Unload All](#)

Below you can see the loaded application modules.

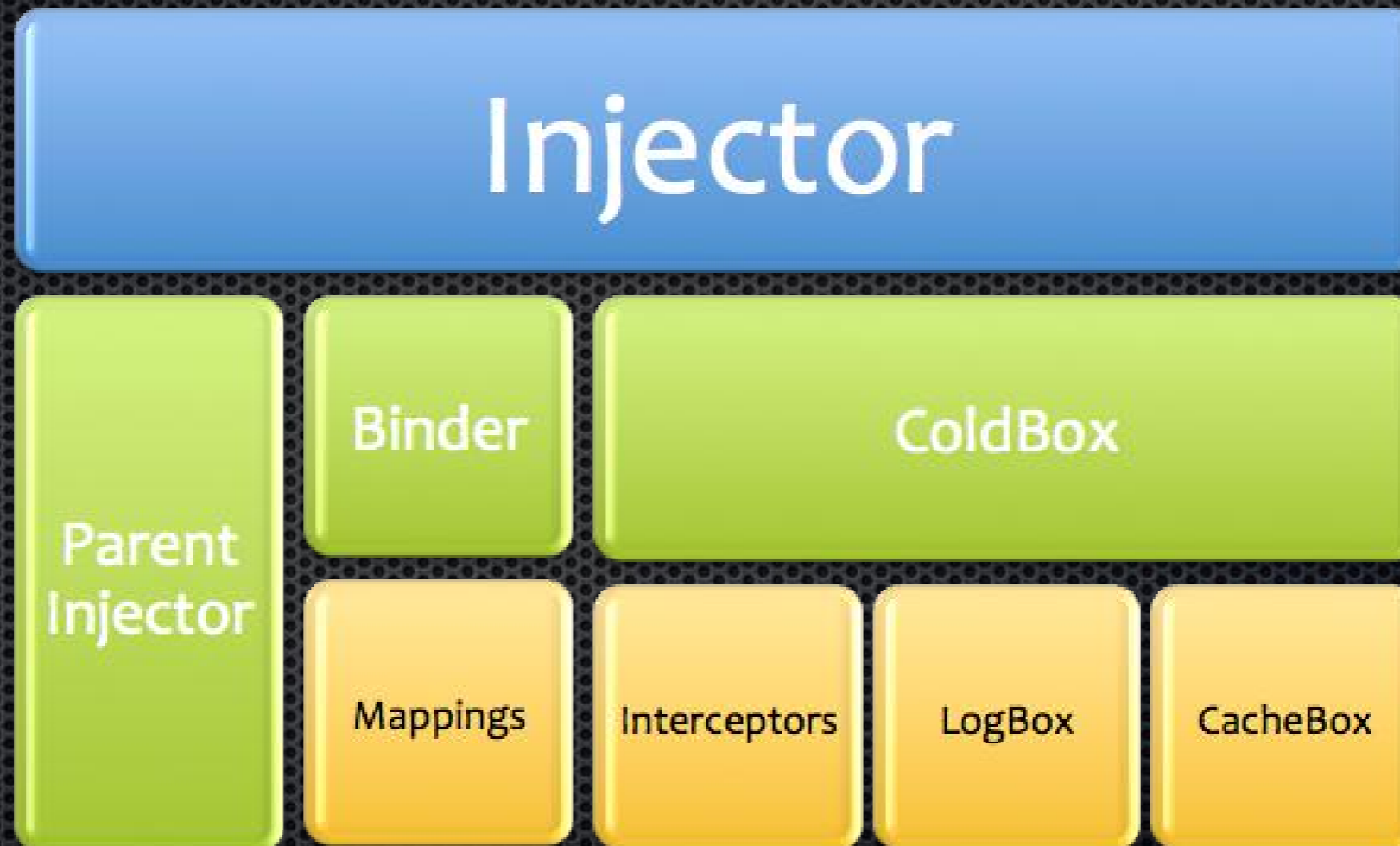
Module	Author	Version	V.P.L	L.P.L	Load Time	CMDS
<b>My Test Module</b> A funky test module <i>No Entry Point Defined</i>	<a href="#">Luis Majano</a>	1.0	Yes	Yes	May-24 01:30:07 PM	<a href="#">Unload</a> <a href="#">Reload</a>
<b>ForgeBox</b> A module that interacts with forgebox <a href="#">Open Module Entry Point</a>	<a href="#">Luis Majano</a>	1.0	Yes	Yes	May-24 01:30:07 PM	<a href="#">Unload</a> <a href="#">Reload</a>

\* V.P.L = View Parent Lookup Order  
\* L.P.L = Layout Parent Lookup Order

# WireBox



*Need dependency injection or Aspect Oriented Programming?*

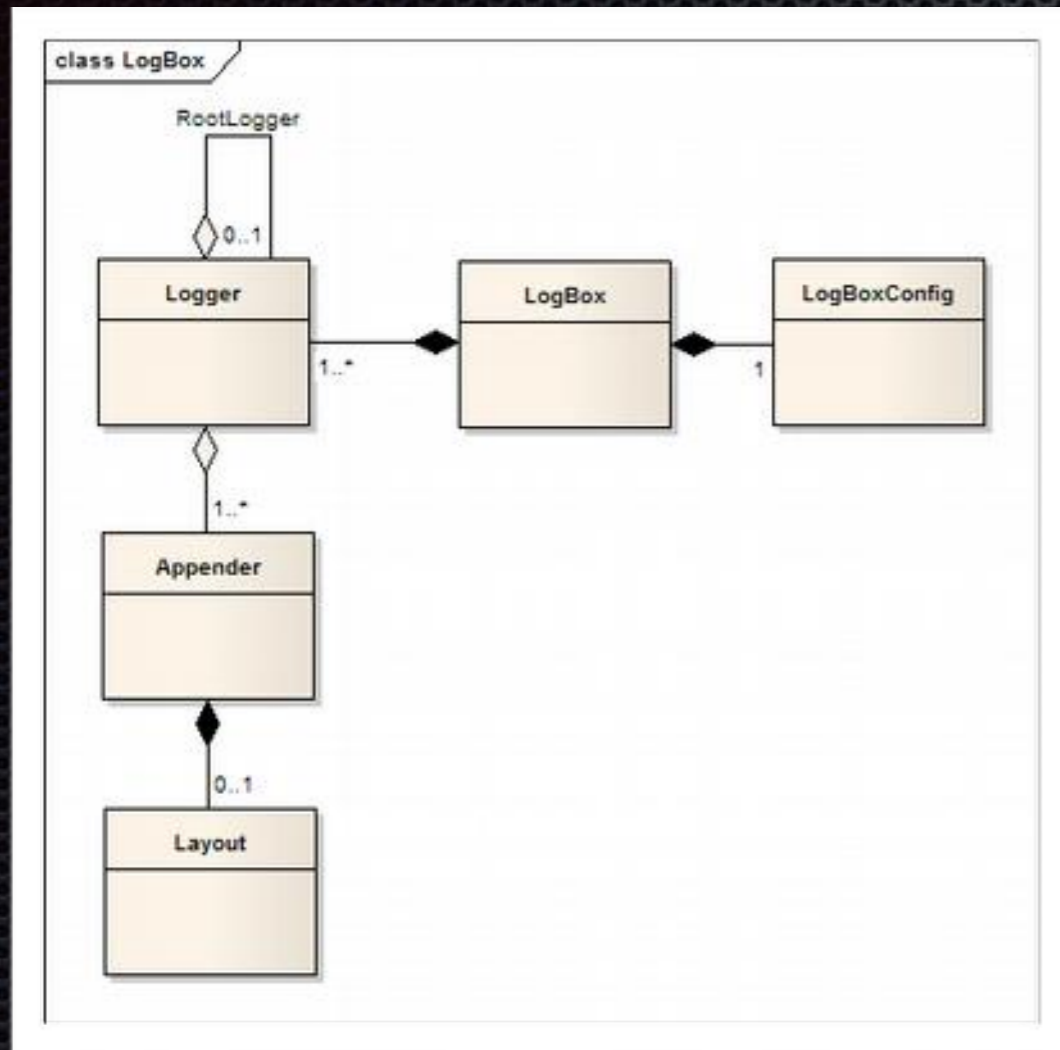


# WireBox Features



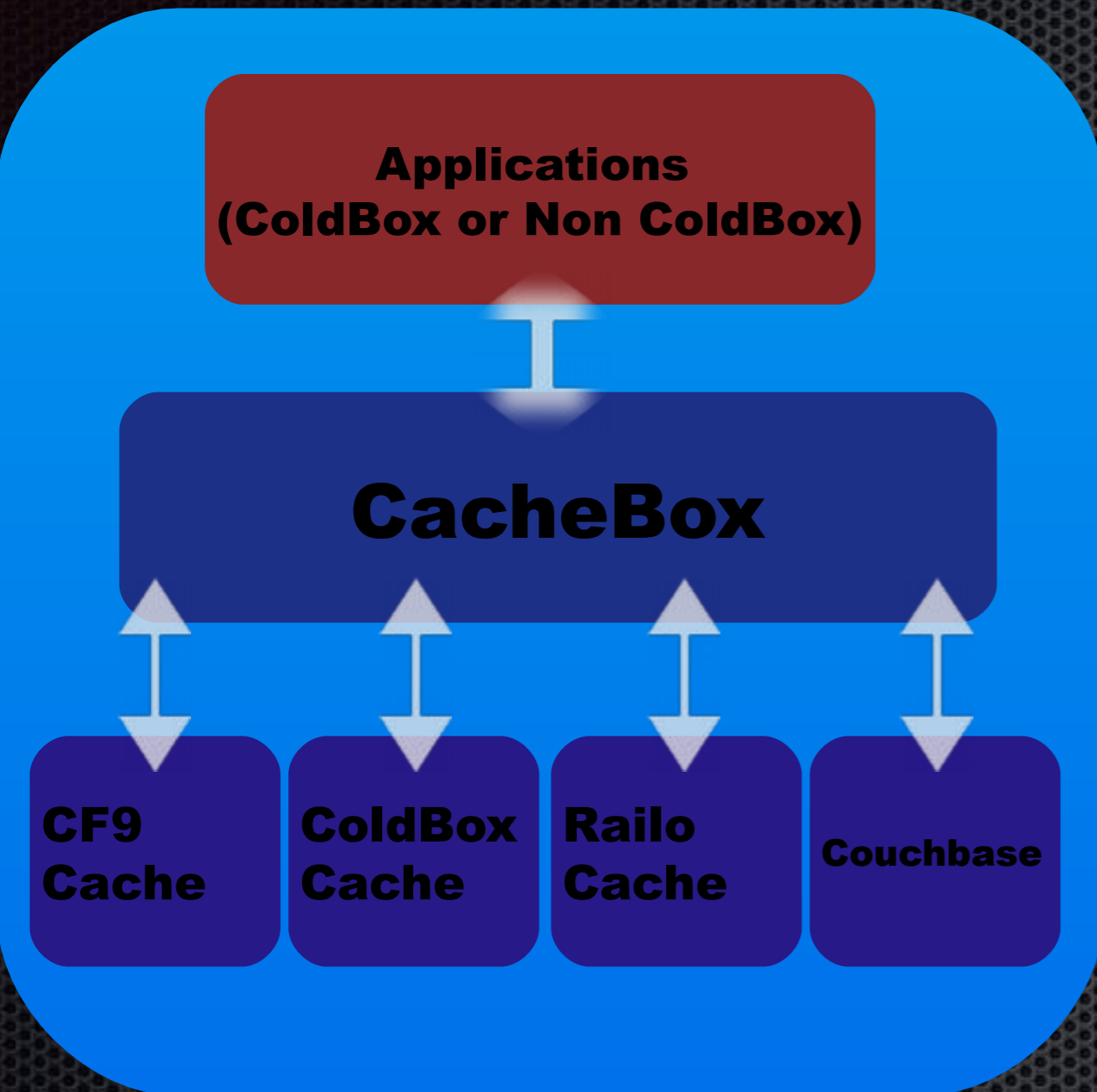
- **Annotation-driven DI**
- **0 configuration or programmatic configuration mode (NO XML)**
- **Creation & DI of : CFCs, java, webservices, rss, constants, etc**
- **Multiple Injection Styles: setter, method, constructor, mixins**
- **Persistence scopes: singleton, session, request, cache, etc.**
- **Integrated logging via LogBox**
- **Object Life Cycle Events**

# LogBox = Fun!



- ✦ **Ready for the next step in logging?**
- ✦ **Enterprise Logging Library**
- ✦ **Inspired by Log4J**
- ✦ **12 Appenders Included**
- ✦ **Extensible Appenders & Layouts**
- ✦ **Programmatic Configurations**
- ✦ **Category Inheritance**

# CacheBox



- ✦ **Need enterprise caching?**
- ✦ **Cache Aggregator**
- ✦ **Cache Agnostic API**
- ✦ **Event Model**
- ✦ **Stats, Reports**
- ✦ **Interactive Console**
- ✦ **Memory-aware**
- ✦ **Event/View Caching**
- ✦ **Use if needed**

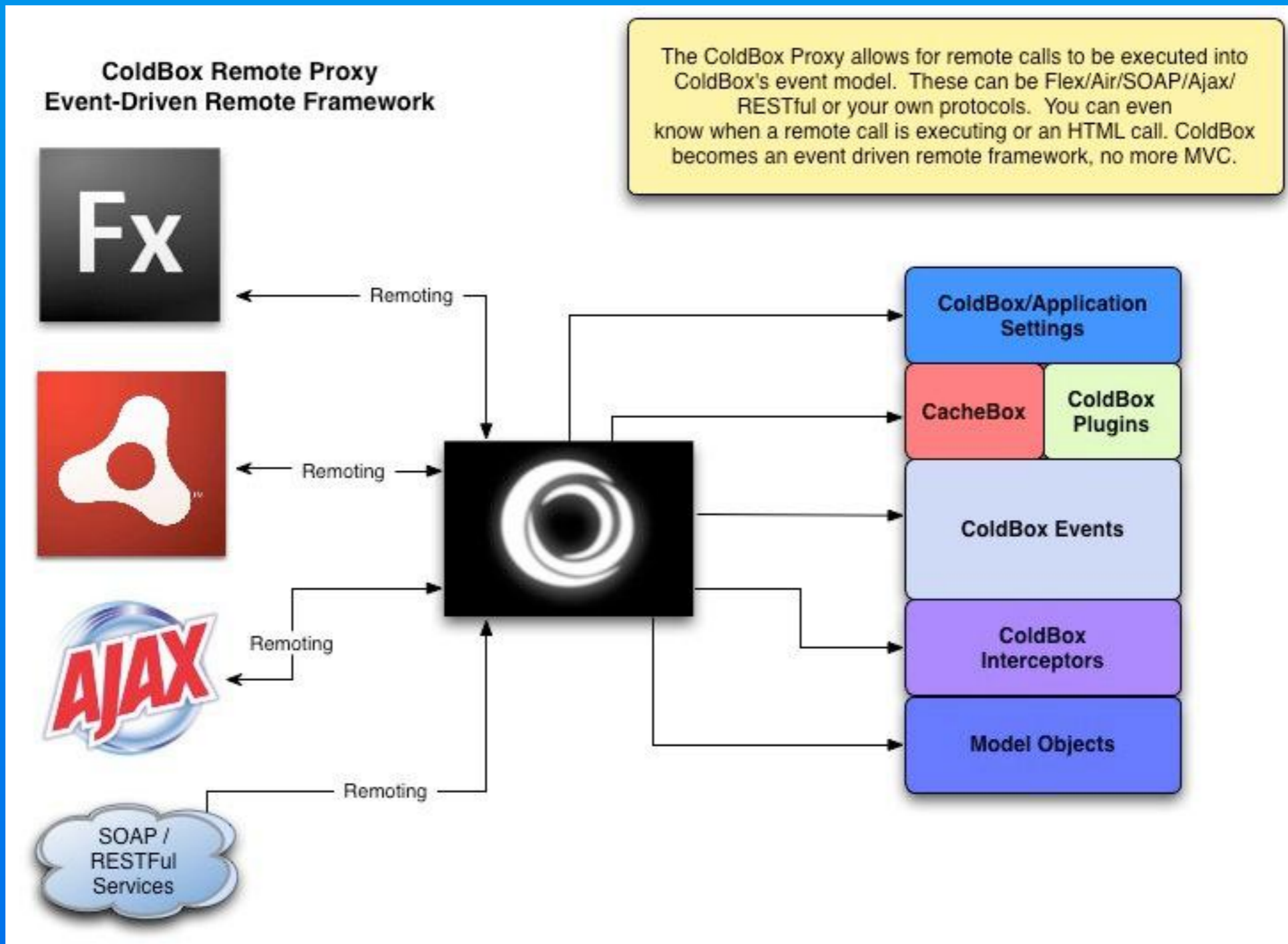
# RESTful Web Services

- **Easy creation of RESTful services**
- **Advanced URL Routing and Mappings**
- **RESTful actions: `action={get='list', post='create'}`**
- **Extension detection and configuration**
- **HTTP Method Security**
- **HTTP Basic Authentication**
- **Header/Content Helpers**
- **Auto marshalling of data: json, xml, wddx, custom**
- **ColdBox Relax**





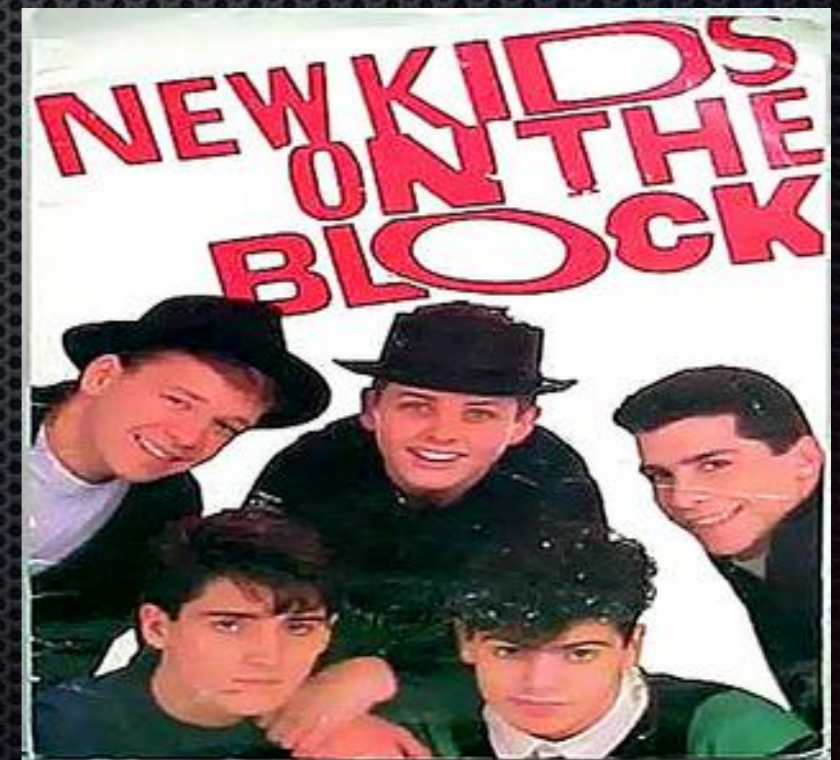
# Flex/Air/Remote Integration



*“One development framework - ANY GUI interface”*

# CommandBox

- ✦ **Native CLI/shell**
- ✦ **Package Manager (ForgeBox)**
- ✦ **REPL**
- ✦ **Application generation**
- ✦ **Scriptable “recipies”**
- ✦ **Embedded server**
- ✦ **Extensible via CFML!**
- ✦ **Built-in help**
- ✦ **Task Runners (Grunt, Gulp, Ant)**
- ✦ **Directory Watchers**



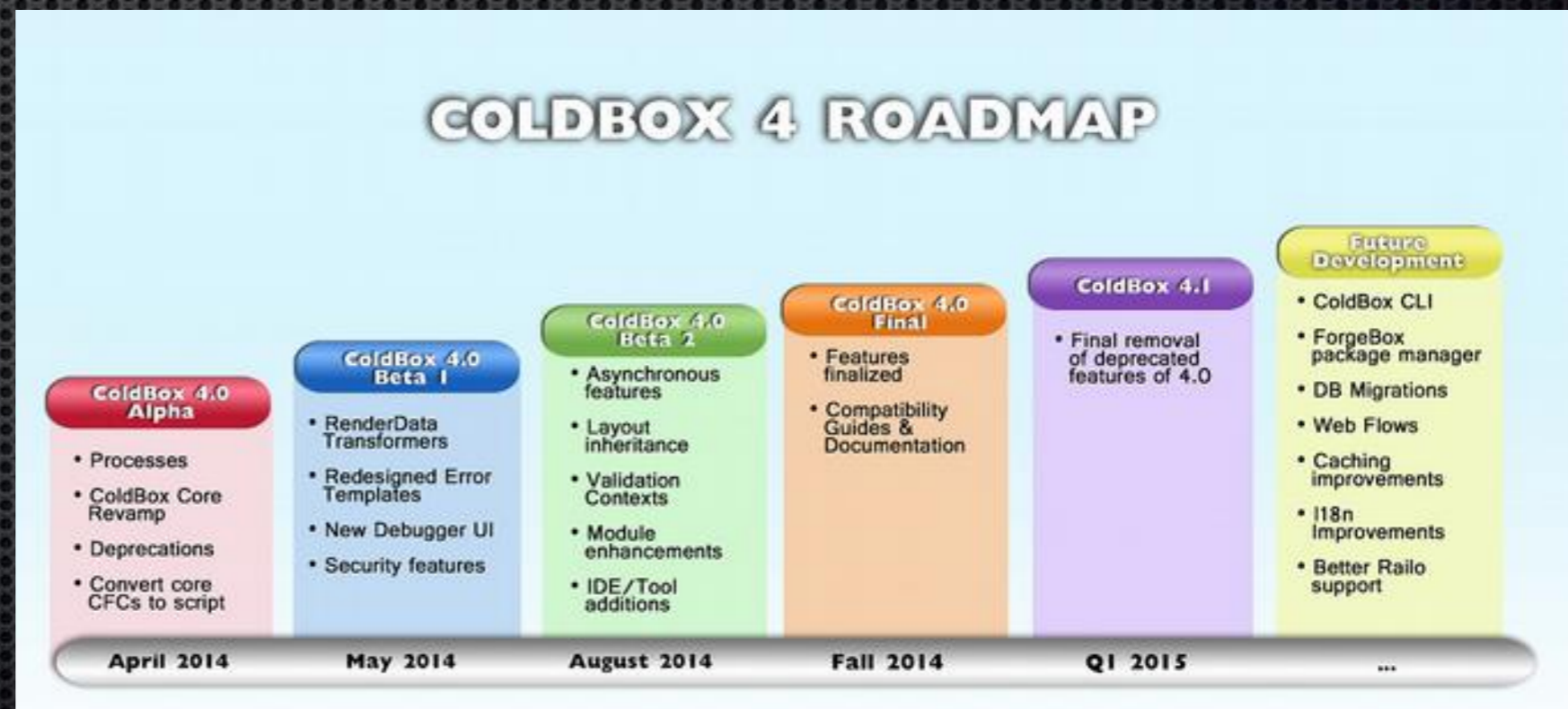
# Ninja Status

- **Several useful tools and plugins (Load when needed)**
- **XSS Cleanup Tools**
- **JavaLoader integration**
- **ColdBox Security Firewall**
- **ColdBox Tier Deployment Tools**
- **JVM, File, Date Utilities**
- **Storage Facades**
- **RSS Feed Helpers**
- **i18n & Localization**
- **Etc.**



# The Future (ColdBox 4)

- ✦ Core size reduced by 75%
- ✦ Deprecations (CF9+)
- ✦ Core code in script
- ✦ Module enhancements
- ✦ Internal Automation & CI
- ✦ Async features
- ✦ Security features
- ✦ CLI generators
- ✦ Testing tools



# ColdBox Resources

## ❖ Official Site

❖ [www.coldbox.org](http://www.coldbox.org)

## ❖ Documentation

❖ [wiki.coldbox.org](http://wiki.coldbox.org)

## ❖ Google Group

❖ [groups.google.com/group/coldbox](http://groups.google.com/group/coldbox)

## ❖ Training

❖ [www.coldbox.org/training](http://www.coldbox.org/training)

## ❖ Professional Support

❖ [www.ortussolutions.com](http://www.ortussolutions.com)



Brad Wood &  
Ortus Solutions, Corp  
[brad@coldbox.org](mailto:brad@coldbox.org)





# Q & A

