



IBM Software Group

IBM Rational BuildForge

Gestión de entornos, builds, despliegues

Antonio Alonso López

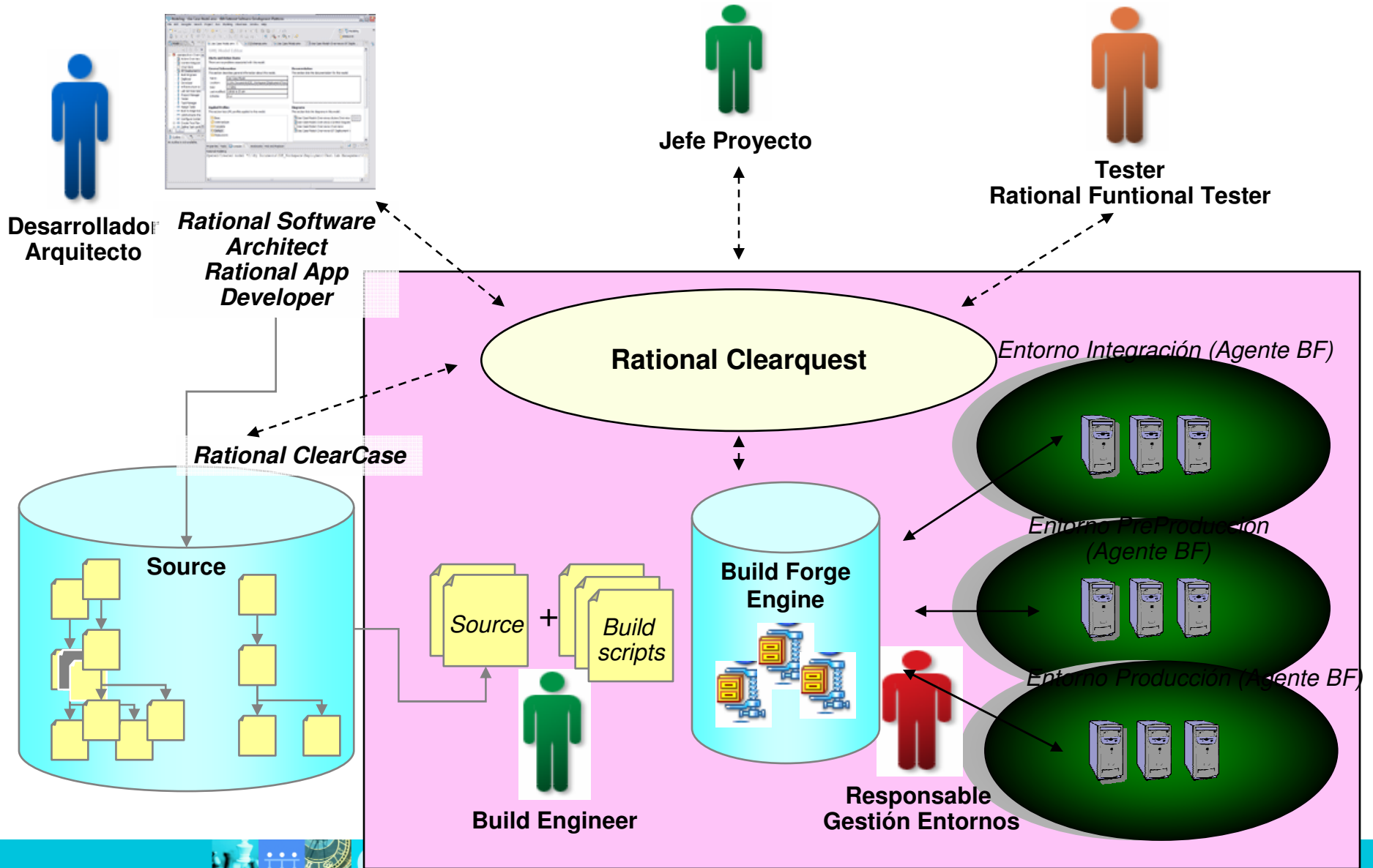
Rational software



ON DEMAND BUSINESS™

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Dominio de ingeniería de software



Dificultades en la gestión de entornos y despliegue.

Situación Actual

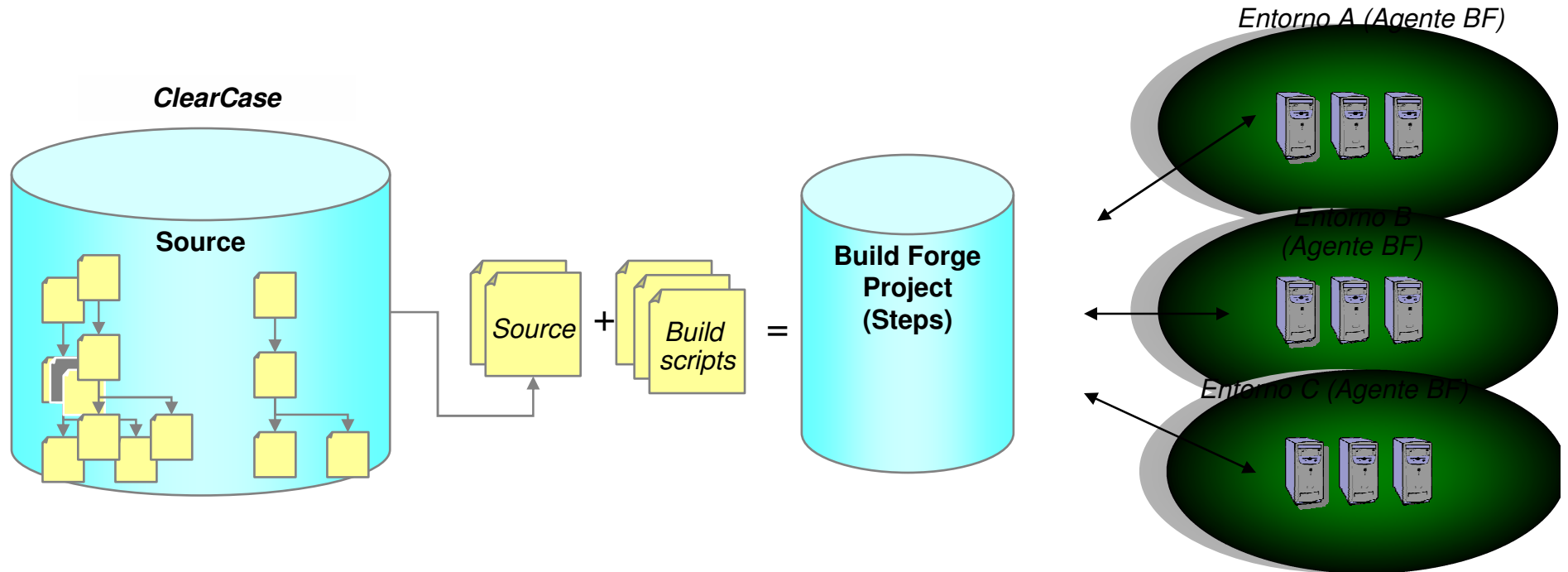
- **¿Qué versión tenemos realmente en producción? ¿Y en pre-producción?**
- **¿Tengo en producción la versión correcta de ClearCase?**
- **Procesos manuales de despliegue suelen derivar en errores.**
- **Como despliego a las distintas plataformas?**

Consecuencias en el negocio

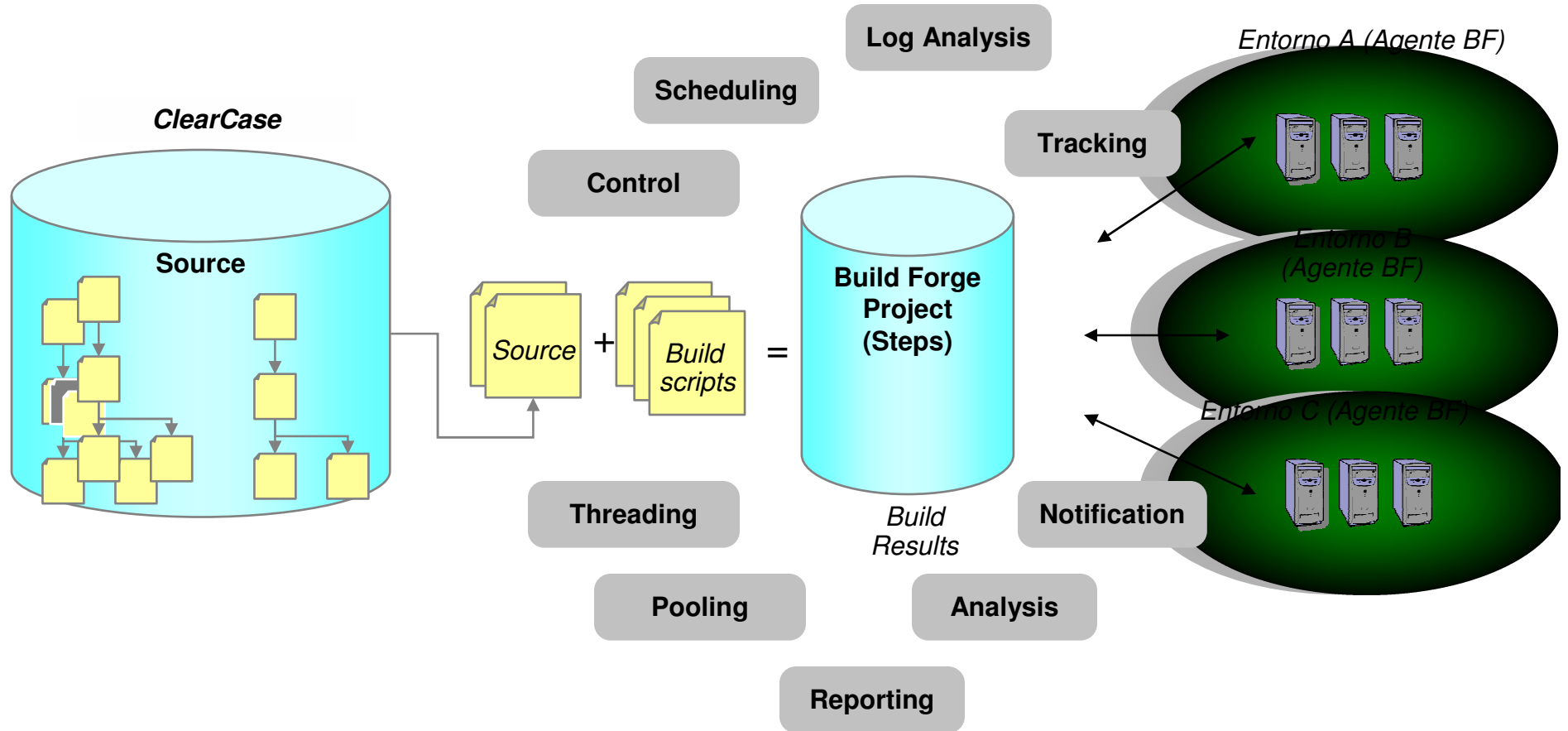
- **Paso a producción** versiones con errores.
- Tardo varias horas o días en pasar a producción.
- **Baja productividad.**
- **Difícil auditabilidad y pérdida de trazabilidad entre ClearCase y entornos.**



Rational BF : Integración Entorno desarrollo y explotación



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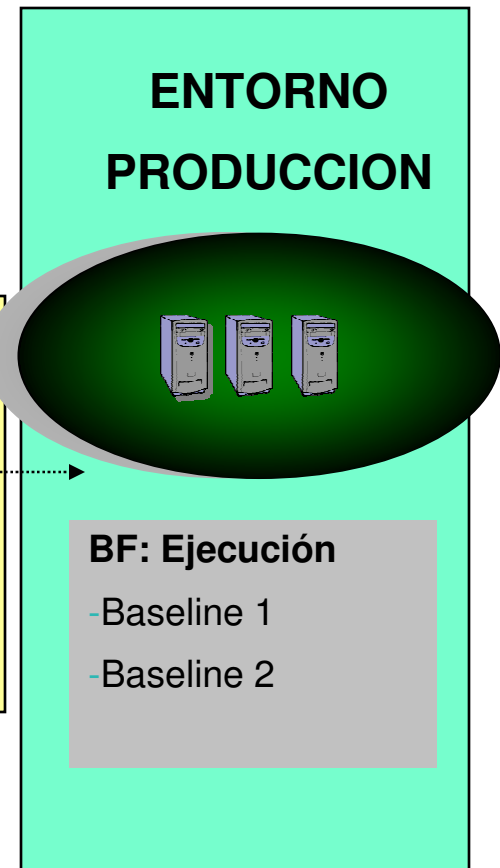
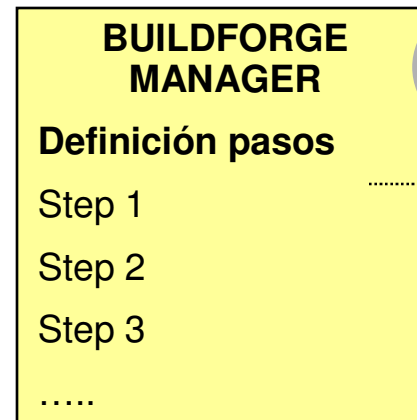
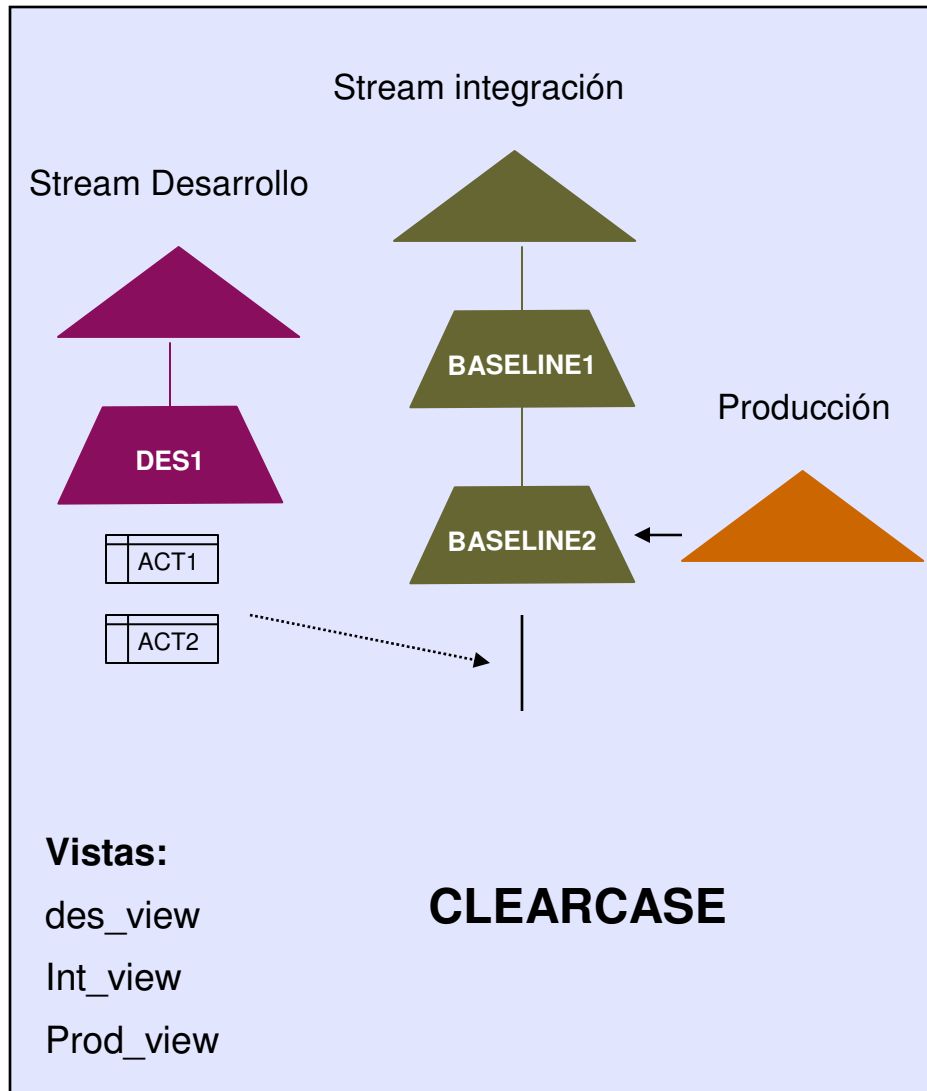


DEMO 1 – ClearCase y BF

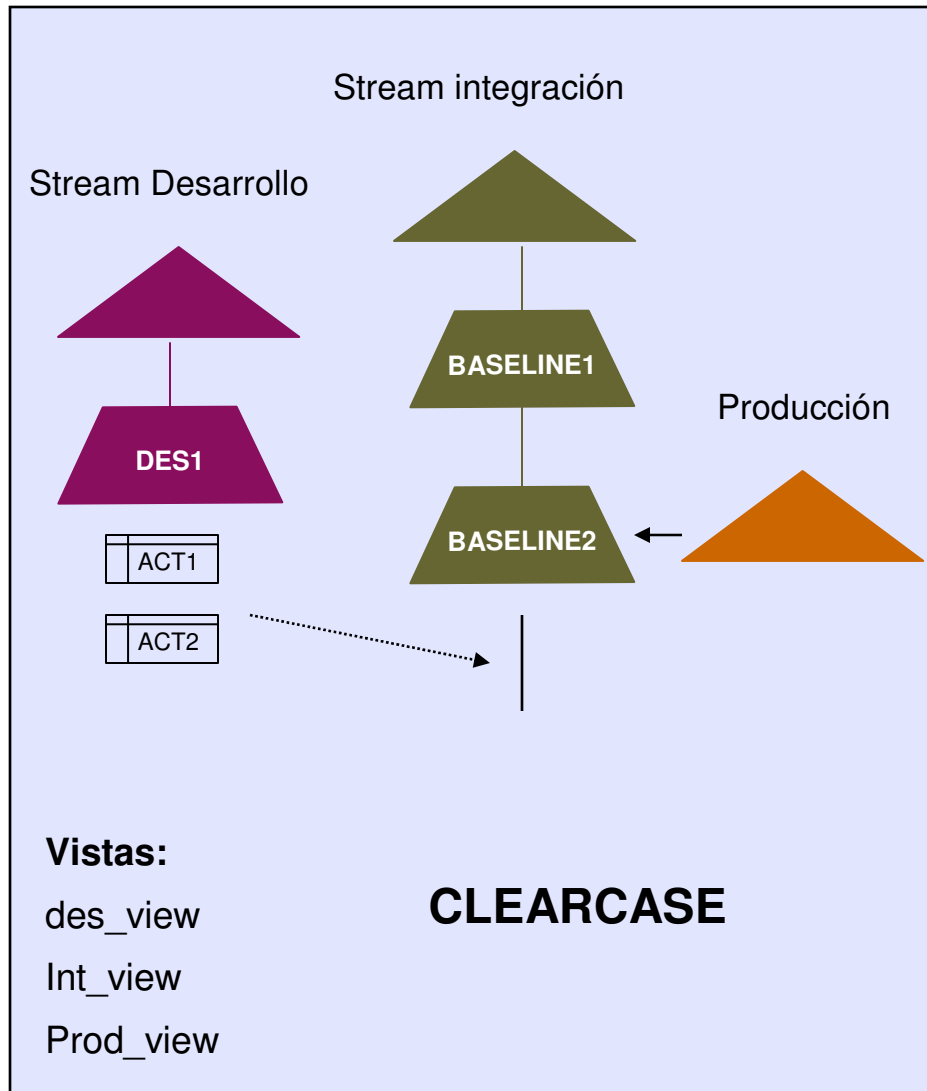


DEMO

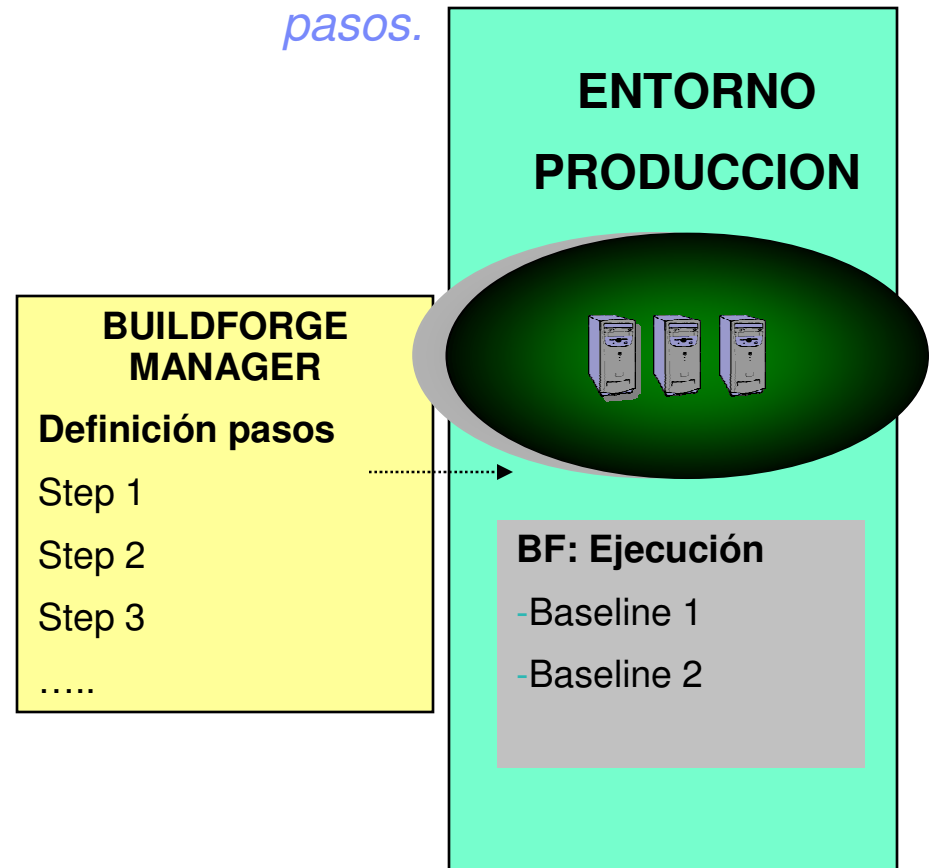
Realizamos actividades de desarrollo en el stream integración



DEMO

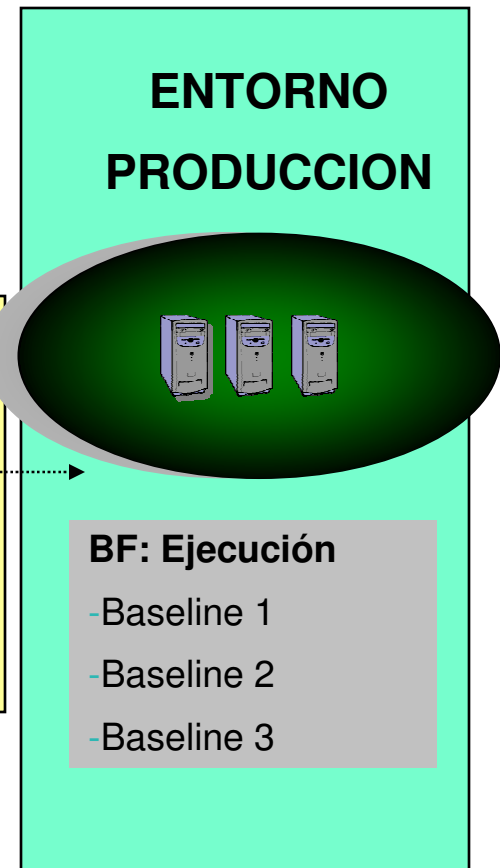
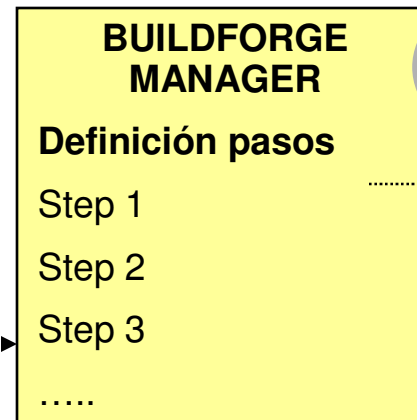
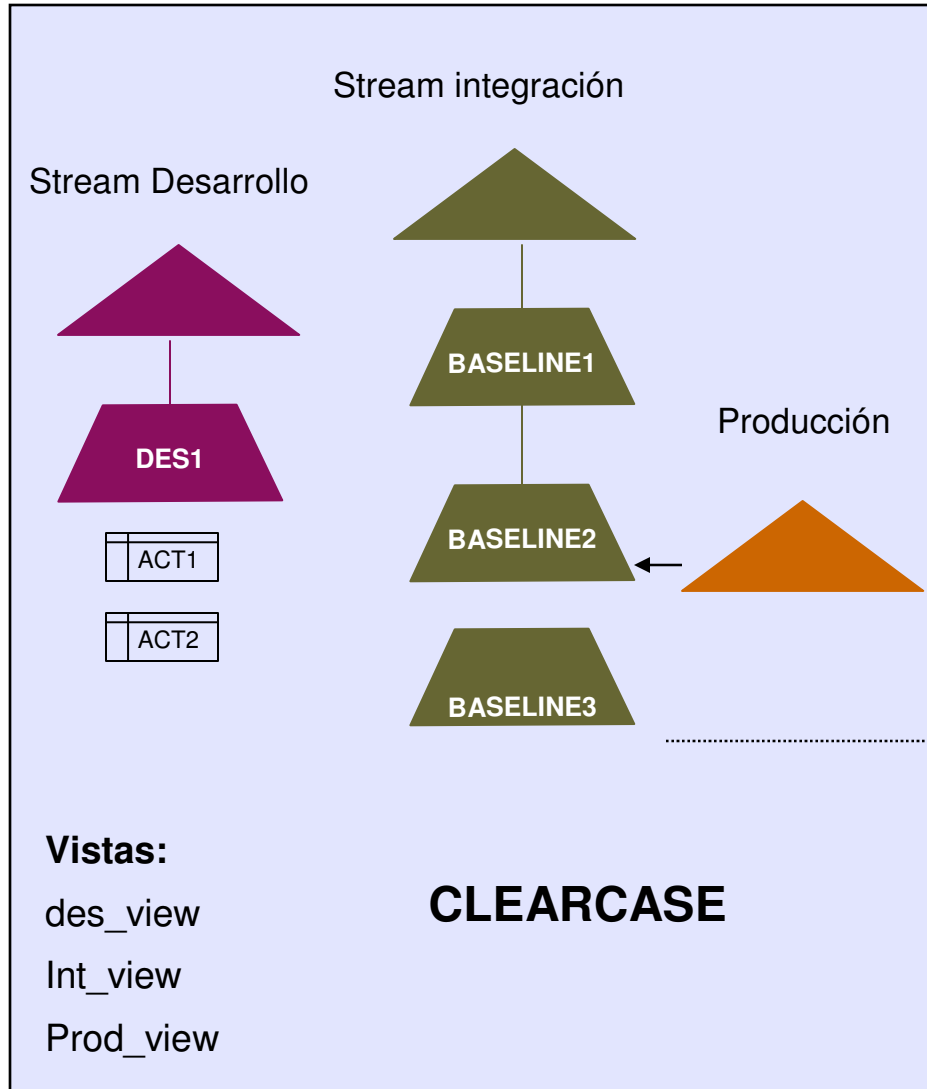


Build Forge comprueba si hay nuevas actividades respecto a la última baseline. Ejecuta pasos.



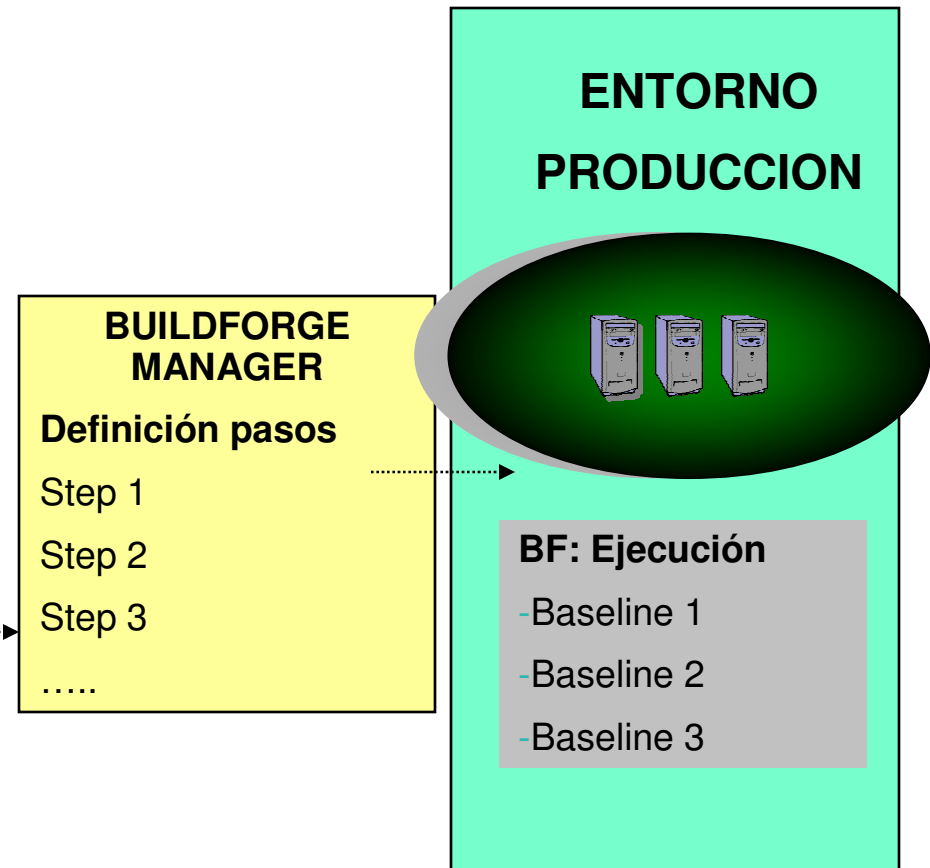
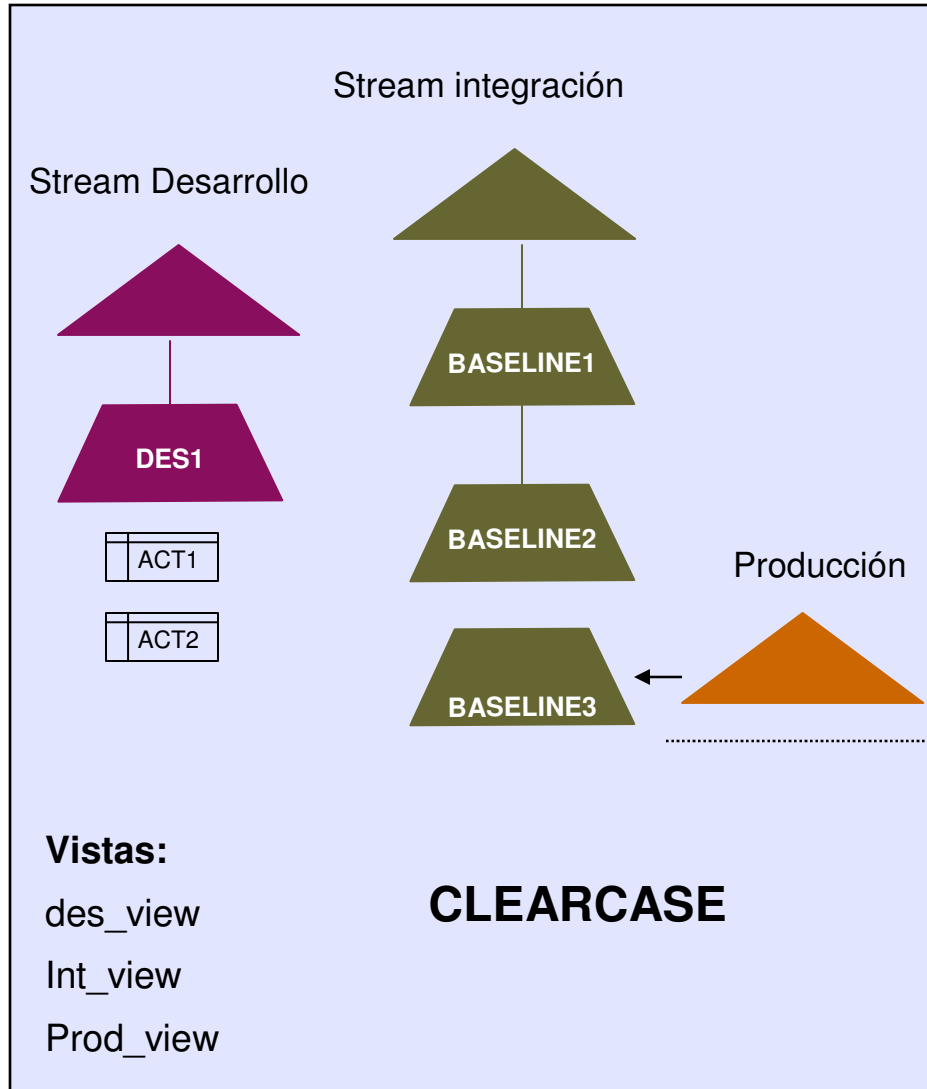
DEMO

Despliega y crea Baseline 3



DEMO

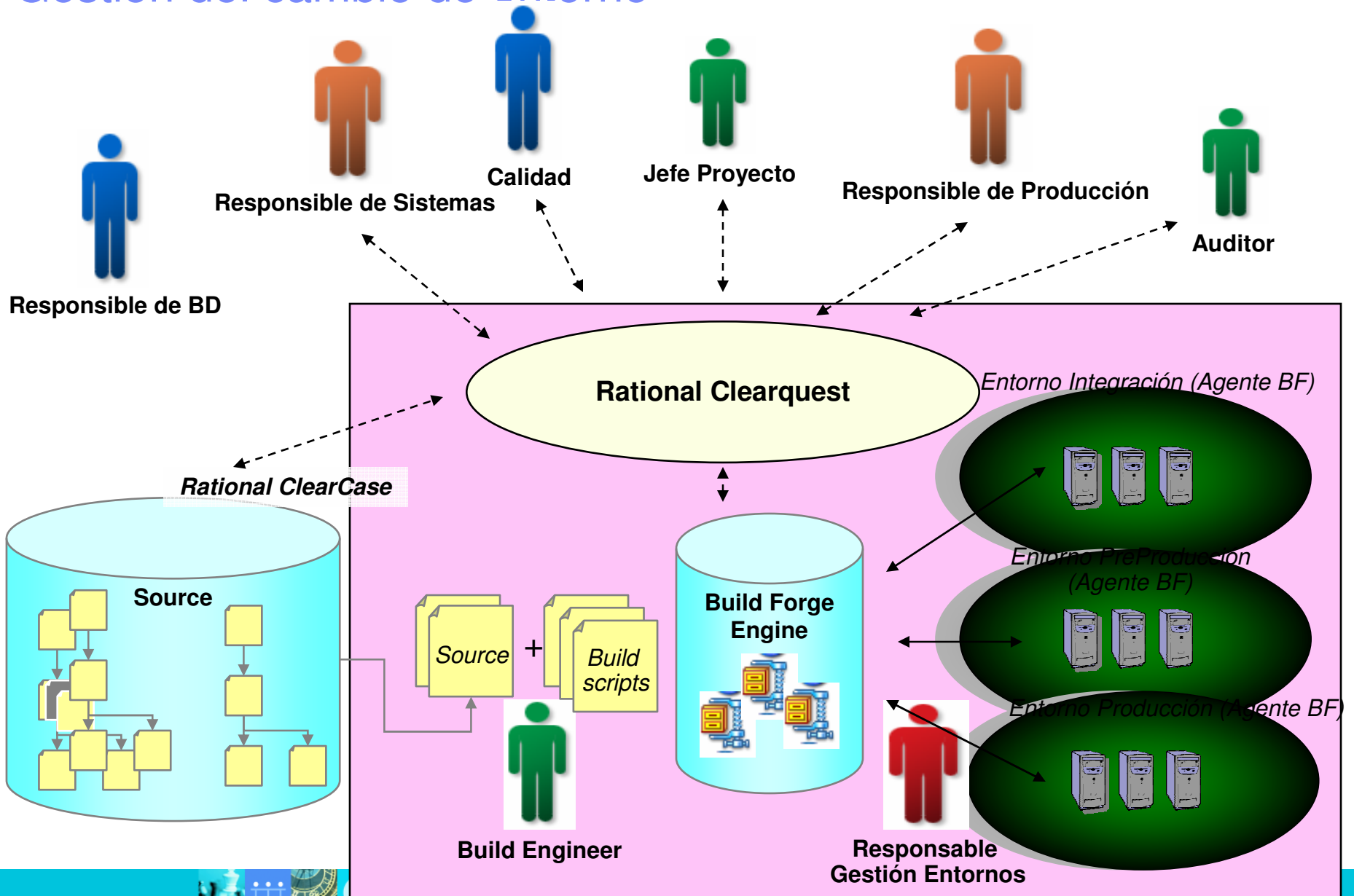
Rebase del Stream de Producción



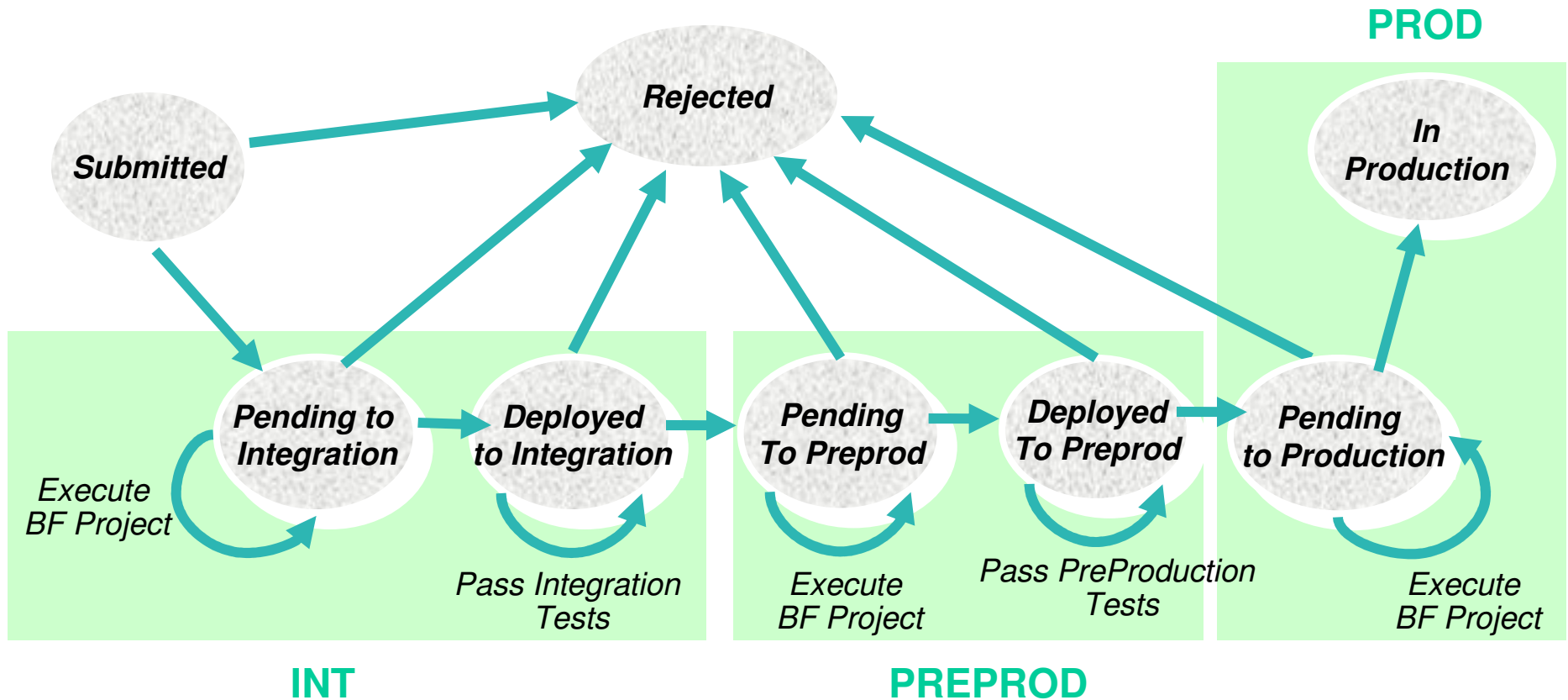
DEMO 2 – ClearQuest y BF



Gestión del cambio de entorno



Ejemplo de flujo de despliegue



Rational BuildForge

BuildForge proporciona un framework configurable y flexible que permite controlar la gestión de entornos, automatizar el despliegue y garantizar la consistencia entre desarrollo y producción

Areas de mejora con Rational Build Forge

- ▶ **Automatización del proceso:**
 - *Proporciona automatización , control y velocidad de despliegue.*
- ▶ **Auditabilidad y trazabilidad:** Trazabilidad inversa desde entornos a desarrollo.
 - *Capacidad de auditar, bill of materials y reproducibilidad.*
- ▶ **Integración de equipos distribuidos físicamente en varios centros:**
 - *Control de acceso y notificaciones.*
- ▶ **Asegura la integración continua:** Autointegración por parte del desarrollador



SCREENSHOTS EJEMPLO



Screenshot 1 : Definición de servidores lógicos y agentes

The screenshot displays a web application interface for managing logical servers and agents. The interface is viewed through a Microsoft Internet Explorer browser window. The address bar shows the URL: `http://mauritiu:81/index.php?SetMode=9&Page=Servers`. The application has a red header with navigation tabs: Activity, Project, Adaptor, Reports, and Admin. Below the header, there are sub-tabs: Servers, Users, Access, Perms, System, Import, Messages, and Views. The main content area shows a table of logical servers and agents.

Resource Name (1)	Pool +	Jobs	Min. Load	Access	Host +	Path	Env	Duplex
Baltic-WinXP	WinXP	0/4	0%	Build Engineer	mauritiu	c:/builds	--	--
Build Server 1	build	0/2	50%	System Manager	localhost	c:/builds	--	--
Build Tools	--	0/1	--	System Manager	localhost	C:/	--	--
ClearCase	--	0/3	--	Build Engineer	mauritiu	c:/	--	--
Test Server	--	0/1	--	System Manager	localhost	C:/antonio	Java 1.3	--
Test Server 2	--	0/3	--	Build Engineer	localhost	c:/antonio	Java 1.4	--
test server x	--	0/3	--	Build Engineer	localhost	M:/lab_view/...	--	--

Below the table, there is an 'Add Server' button. The interface also includes a 'Logout' button and a 'Refresh' button. The bottom of the screenshot shows the Windows taskbar with the Start button, Control Panel, Computer Management, and the [BF]Servers - Microsoft... window. The system tray shows the time as 23:58 and the date as 05/28/2006. The VMware Player window at the bottom indicates the slide number as 14 of 14 and the language as Spanish (Spain-Traditional Sort).

ScreenShot 2: Lista de Proyectos BF

Activity **Project** Adaptor Reports Admin

Classes Groups Environ **Projects** Libs Templates Filters

Root User **BUILD FORGE**

Logout -- All -- Refresh

Project +	Tag	Class +	Env	Server (1)	S P F	Access
Test Project	BUILD \$BF B	Production	—	Baltic-WinXP	---	Build Engineer
Rocket Booster Build	RB \$Maj.\$Min.\$B	Production	UCM	Build Server 1	---	System Manager
Tranning Lab	\$Maj.\$Min.\$Patch.\$Build	Production	Training Env 1	Build Server 1	☑ - ☑	Build Engineer
Prueba archivo	BUILD \$BF B	Production	Training Env	Build Server 1	---	Build Engineer
Duke 2.0	BUILD \$BF B	Production	Duke	ClearCase	---	Build Engineer
Hello World	BUILD \$BF B	Production	StartParams	Test Server	---	Build Engineer

Search Steps Add Project

Slide 9 of 9 Rational_BluePearl Spanish (Spain-Traditional Sort) 66% 1:01

ScreenShot 3: Ejemplo de steps de un proyecto

The screenshot shows a web browser window displaying the 'Tranning Lab Project' page. The page has a red header with navigation tabs: Activity, Project, Adaptor, Reports, Admin. Below the header are sub-tabs: Classes, Groups, Environ, Projects, Libs, Templates, Filters. The main content area shows a table of build steps for the 'Tranning Lab Project'.

Project Running: Changes will apply to next invocation only. Step Clean Tomcat Web Server updated in project Tranning Lab.

Step Name	Server	Env	Result	Notify	I	P	F	Thread	Timeout	Relative	Access
Shutdown Tomcat Web Server	-	-	H:Exit Code	-	-	-	-	No	5:00	Project	Build Engineer
Clean Tomcat Web Server	-	-	H:Exit Code	-	-	-	-	No	5:00	Project	Build Engineer
checkout	-	-	H:Exit Code	-	-	-	-	No	5:00	Project	Build Engineer
Modify	-	-	H:Exit Code	-	-	-	-	No	5:00	Project	Build Engineer
compile	-	-	H:Add Filter	-	-	-	-	No	5:00	Project	Build Engineer
Create WAR file	-	-	H:Exit Code	-	-	-	-	No	5:00	Project	Build Engineer
Restart Tomcat	-	-	H:Exit Code	-	-	-	-	No	5:00	Project	Build Engineer
checkin file	-	-	H:Exit Code	-	-	-	-	No	5:00	Project	Build Engineer
test application	-	-	H:Exit Code	-	-	-	-	No	5:00	Project	Build Engineer

Registers Add Step

Date Owner Notes

VMware Player interface at the bottom shows: Slide 10 of 10, Rational_BluePearl, Spanish (Spain-Traditional Sort), 65% zoom, and system tray with time 1:03.



Screenshot 4 : Resultado de las Build

Completed Builds (97)

Project	Tag	Class	State	Result	Date	Runtime	Owner
Tranning Lab	4.6.10.25	Production	Failed	Fail	26 Jun 06 18:03	0:34	Antonio Alonso
Tranning Lab	4.6.10.24	Production	Failed	Fail	26 Jun 06 18:00	0:34	Antonio Alonso
Tranning Lab	4.6.10.23	Production	Failed	Fail	26 Jun 06 17:57	0:28	Antonio Alonso
Tranning Lab	4.6.10.22	Production	Failed	Fail	26 Jun 06 14:51	0:22	Antonio Alonso
Tranning Lab	4.6.10.21	Production	Failed	Fail	26 Jun 06 14:48	0:07	Antonio Alonso
Tranning Lab	4.6.10.20	Production	Failed	Fail	26 Jun 06 14:45	0:10	Antonio Alonso
Testing Library	BUILD 1	Production	Built	Pass	26 Jun 06 13:55	0:09	Root User
Tranning Lab	4.6.10.19	Production	Failed	Fail	26 Jun 06 13:54	1:15	Root User
Tranning Lab	4.6.10.18	Production	Failed	Fail	26 Jun 06 13:50	0:32	Root User
Tranning Lab	4.6.10.17	Production	Built	Pass	26 Jun 06 13:06	0:52	Root User
Tranning Lab	4.6.10.5	Production	Failed	Fail	26 Jun 06 12:02	0:12	Root User
Prueba archivo	BUILD 14	Production	Built	Pass	25 Jun 06 14:31	0:09	Root User
Prueba archivo	BUILD 13	Production	Failed	Fail	25 Jun 06 14:30	0:05	Root User



Integracion con ClearQuest

The screenshot displays the IBM Rational ClearQuest application window. The title bar reads "IBM Rational ClearQuest - [SAMPL : Demo Data Base (Builds * (BTBuild))]". The menu bar includes File, Edit, View, Actions, Query, Window, and Help. The toolbar contains icons for various actions, including "Run Query" and "New Defect".

On the left, a tree view shows the workspace structure:

- Workspace: Queries, Charts, Reports
 - Personal Queries
 - All Base CM Activity
 - Builds *
 - Todos los pases
 - Public Queries
 - Aging Charts
 - DeploymentQueries
 - Distribution Charts
 - Email Rules
 - PrintReportFormats
 - Report Formats
 - ReportFormats
 - Reports
 - TM Charts
 - TM Queries
 - TM Reports
 - Trend Charts
 - UCMSystemQueries
 - UCMUserQueries
 - All Base CM Activity
 - All Defects
 - Keyword Search

The main area shows a table with the following data:

ReleaseName	State	End_DateTime
BASELINE_16	Submitted	
BASELINE_15	Submitted	
BASELINE_13	Submitted	

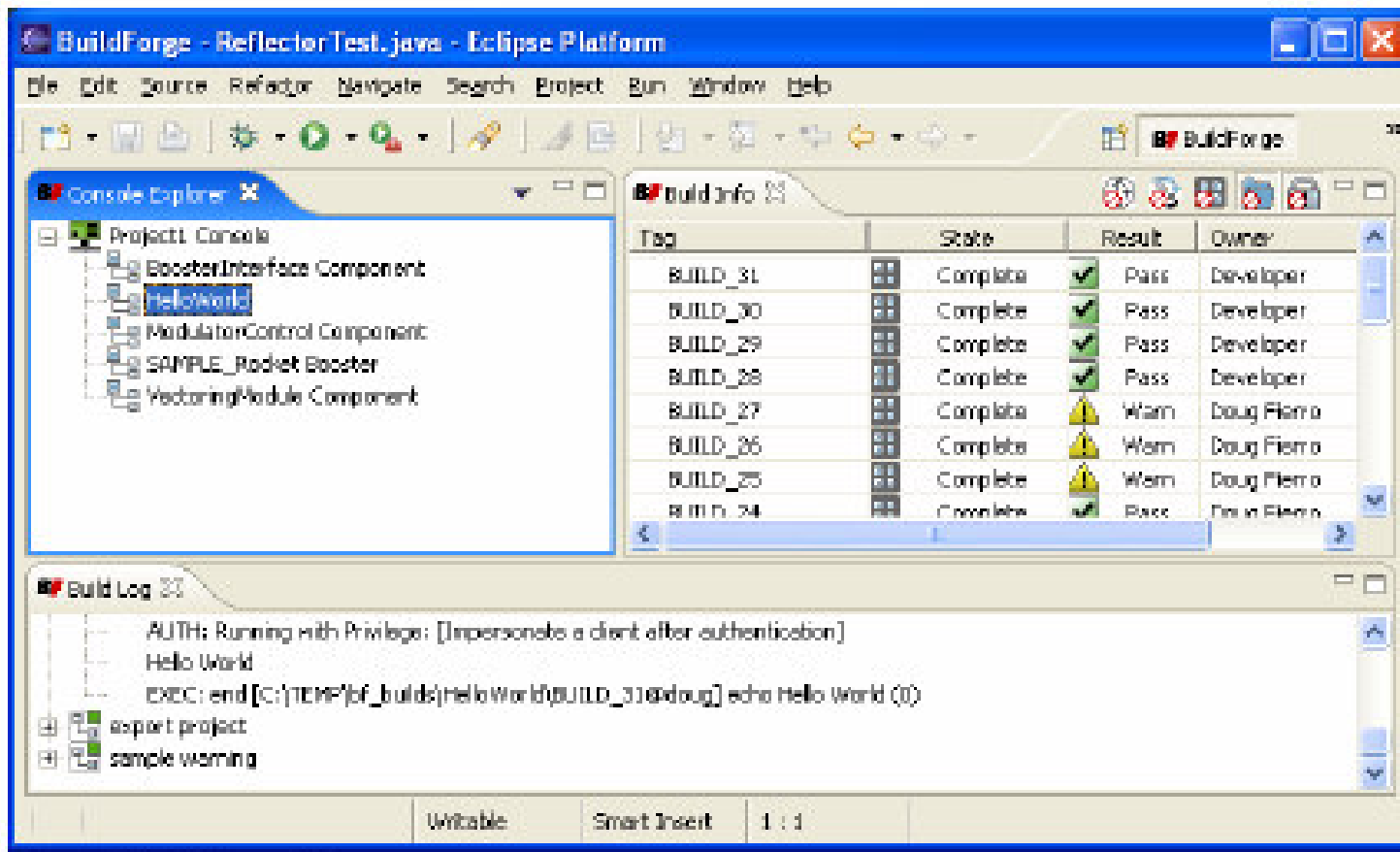
Below the table, there are tabs for "Result set", "Query editor", and "Display editor". The "Main" tab is active, showing a form with the following fields:

- id:
- State:
- Build Start Time:
- Build EndTime:
- Release:

On the right side of the form, there are buttons for "Apply", "Revert", "Print Record", and an "Actions" dropdown menu.



Build Forge Prism : Integración con RAD y RSA



The screenshot displays the Eclipse IDE interface with the Build Forge plugin. The console explorer on the left shows a project structure with 'HelloWorld' selected. The build info table on the right shows a list of builds with their states and results. The build log at the bottom shows the execution of a 'Hello World' command.

Tag	State	Result	Owner
BUILD_31	Complete	Pass	Developer
BUILD_30	Complete	Pass	Developer
BUILD_29	Complete	Pass	Developer
BUILD_28	Complete	Pass	Developer
BUILD_27	Complete	Warn	Doug Florn
BUILD_26	Complete	Warn	Doug Florn
BUILD_25	Complete	Warn	Doug Florn
BUILD_24	Complete	Pass	Doug Florn

Build Log:

```
AUTH: Running with Privilege: [Impersonate a client after authentication]
Hello World
EXEC: end [C:\TEMP\bf_builds\HelloWorld\BUILD_31@Doug] echo Hello World ()
export project
sample warning
```

Sistema de integración continua : Permite al desarrollador emitir compilaciones previo a la consolidación (checkout).

