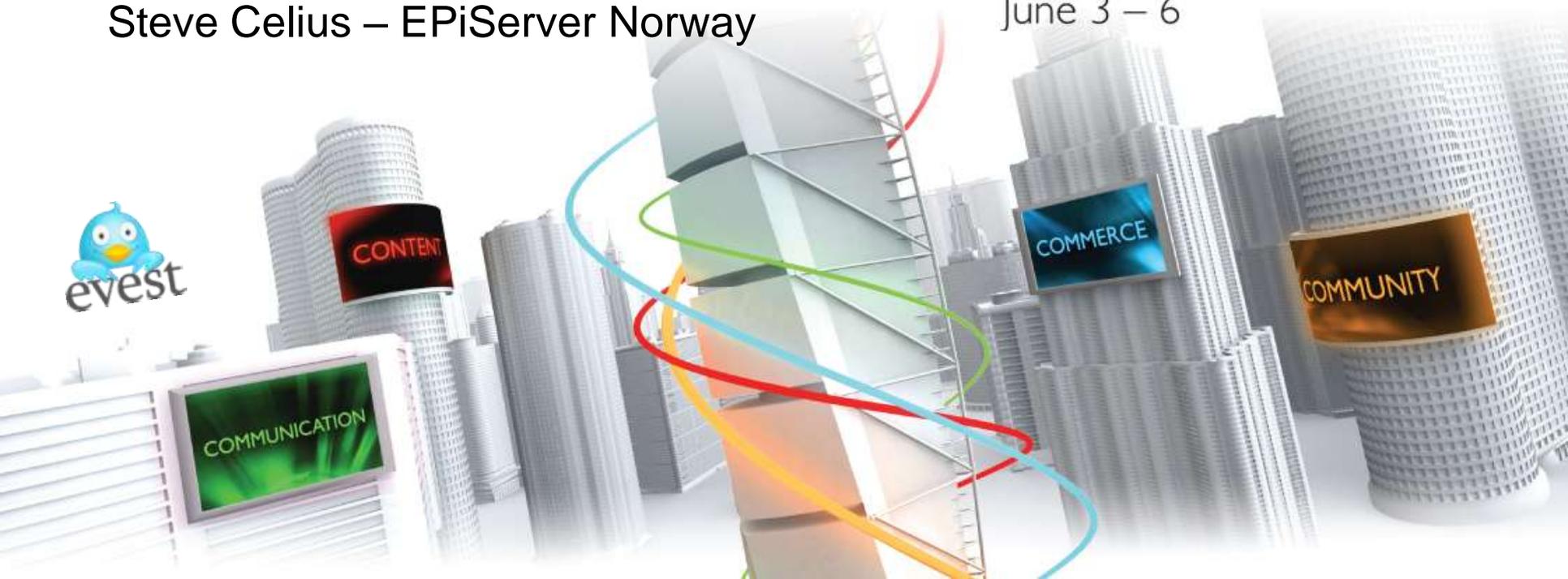


Deployment in EPiServer CMS

Steve Celius – EPiServer Norway

EPISERVER PARTNER SUMMIT

June 3 – 6



PLAN



Planning – External Dependencies

» "Line Out"

- RSS Feeds, HR / Vacancies
- DNS

» SMTP

- XForms, alerts etc.
- Most projects needs access to a SMTP server

» Databases (other than EPiServer)

- Access rights, execute permissions etc.

» Reporting Services or other analysis tools

» Visitor Tracking

- Google Analytics, SEO Tools, etc.

Planning – Licenses

- » EPiServer Licenses for production environment
 - We do not process license requests in weekends
 - You do not want to go live on a demo license (but you could)
- » 3rd Party
 - Identify any 3rd party components that you might need a license for



Planning – Operating System

- » Test (and develop) on same IIS (major version)
 - Windows 7 for Windows Server 2008 (R1 / R2)
- » Develop on 64-bit if you can
 - Windows Server 2008 R2 is 64-bit only
 - Legacy systems / components might make this impossible
 - Large projects have been postponed due to 32/64 bit problems



Installation Basics

- » Install EPiServer Deployment Center on the servers
 - Use it to set up sites (install empty site)
 - Copy run-time files to the empty site
 - You will typically move the database using backup/restore
- » Configure your services
 - Disable the ones you do not need / use (Log Service?)
 - Multiple Servers? Where does the scheduler run?
- » Multiple major versions of EPiServer on same server
 - Test it first – Scheduler could stop working

Virtualization

- » EPiServer runs fine on virtual servers
- » Many customers host like this
- » Virtualization makes capacity planning a bit harder
 - Remember: One host = single point of failure
 - even if you have many virtual machines
 - Performance testing is important

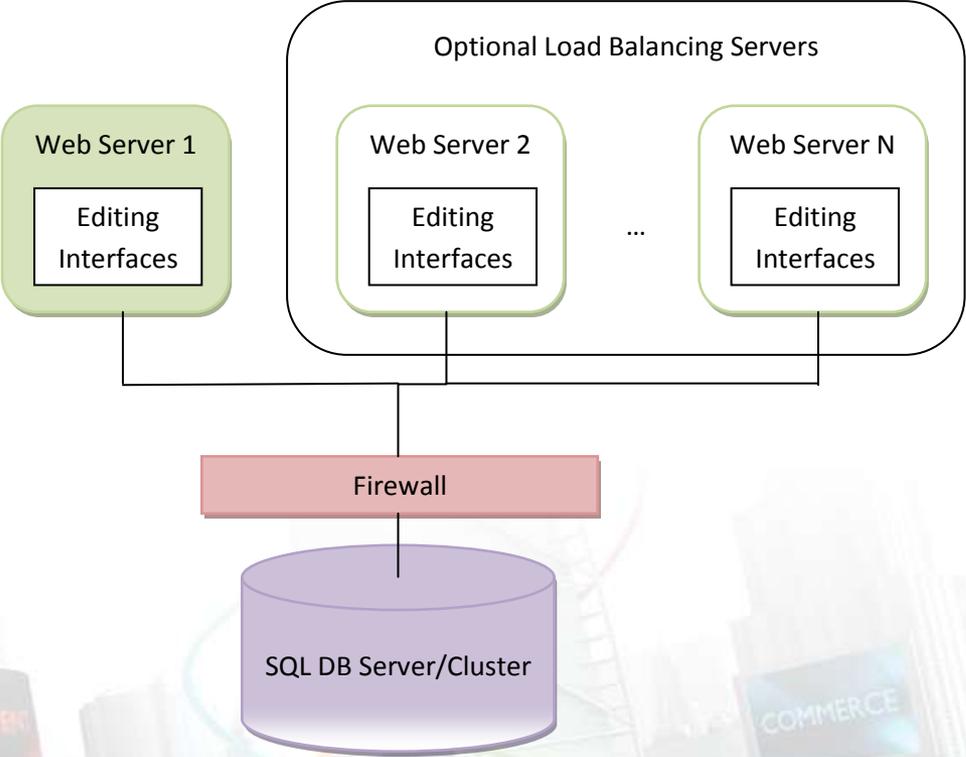


Servers server servers...

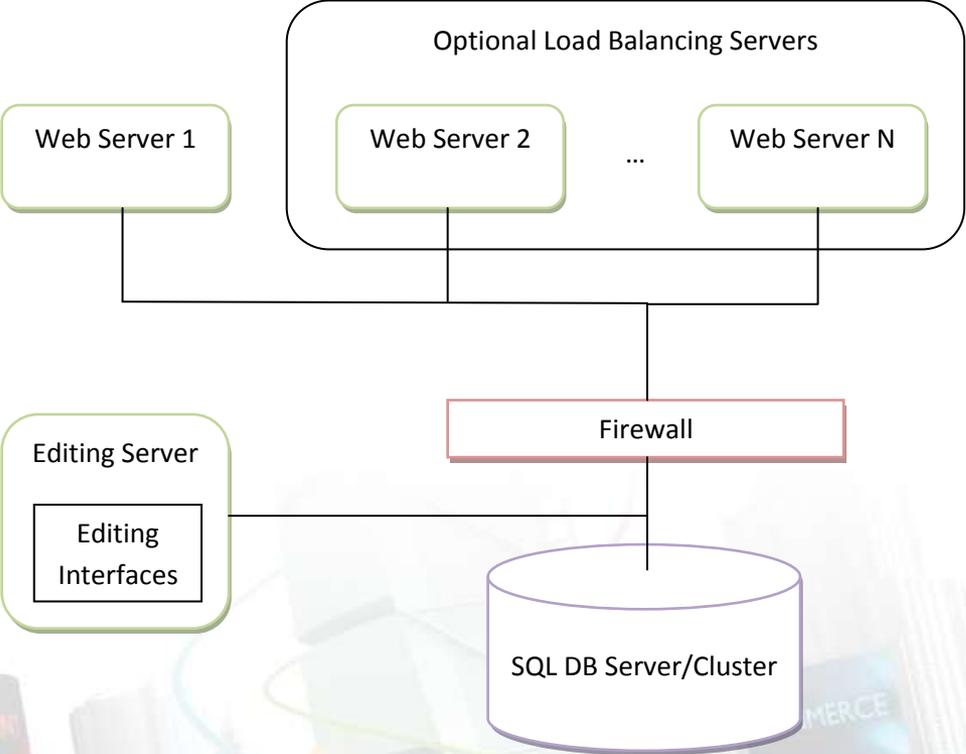
- » Important part in planning
- » How many servers do you need?
- » Web Farms
 - For performance,
 - or availability



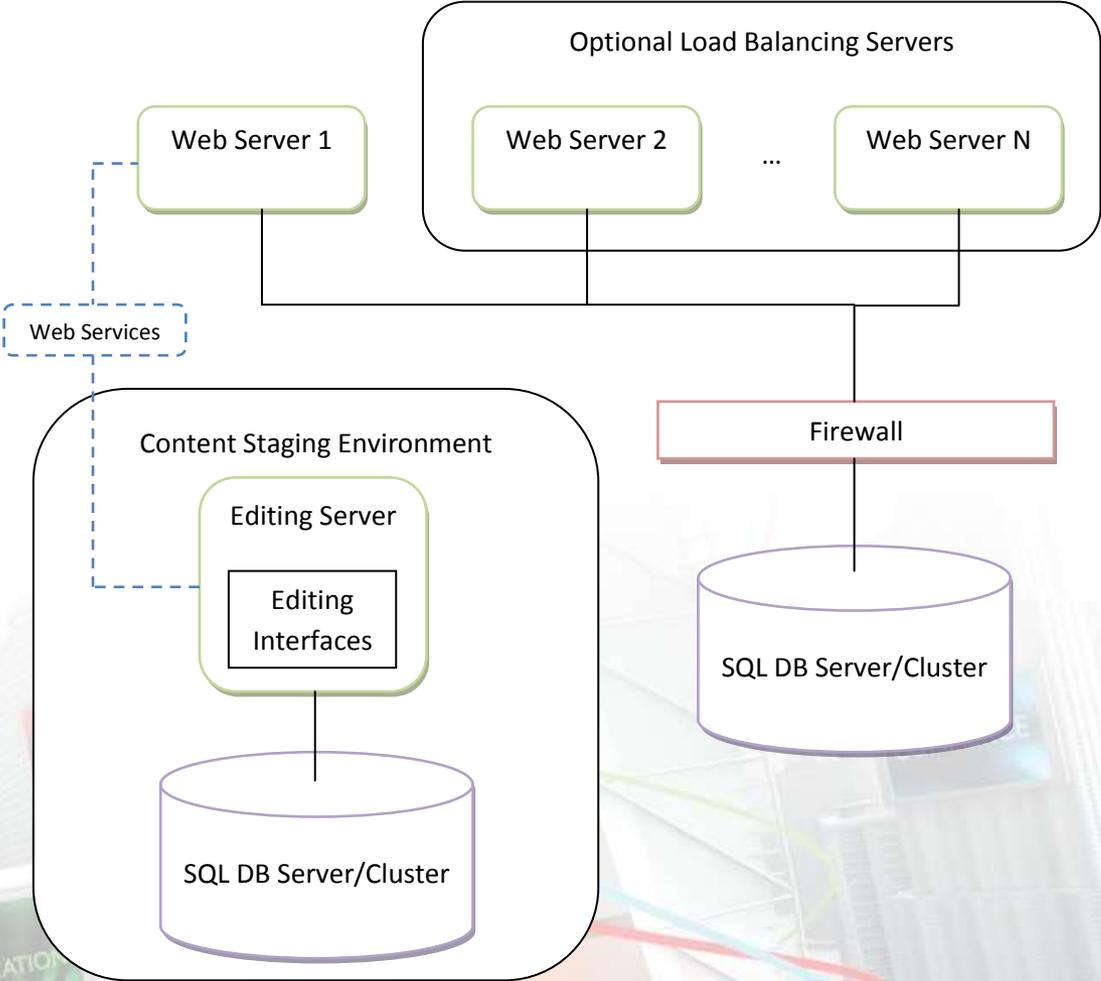
Server Setup – Small Sites



Server Setup – Secure



Server Setup – Content Staging



Single Server vs Web Farms

- » High availability / redundancy require more than one server
- » Scaling up first could be cheaper than scaling out
- » More than one = added complexity
 - Shared VPP storage
 - Cache Invalidation
 - Session Affinity



File Management in Web Farms

- » Images and documents are stored on the hard drive
 - Images and documents that editors upload in edit mode
 - In Virtual Path Providers mapped paths
- » VPPs must be available on all servers in real-time
 - Or at least close to real-time



File Management – Storage Area Network

- » SAN or alternative network storage (NetApp)
- » Safe storage (RAID configurations)
- » Good performance (most cases)
- » Expensive
 - Typically not an option for smaller sites, unless the customer already have a SAN



File Management - Network Share

- » The most common option
- » No redundancy
- » Pick one web server or use database server for files
- » A little bit tricky to configure
 - Requires firewall opening for 455 (ms_ds)
 - Run Application Pool as "other" user
 - Use the same username / passwords on all servers
 - Security on share and disk - requires Modify rights (better on 6)

File Management - File Replication

- » Fully redundant – all servers have all files
- » File replication is inherently dangerous
- » Software for file replication or synchronisation
 - RepliWeb RDS
 - Vice Versa
 - MS DFS (requires AD)
- » Synchronising EPiServer VPP folders using the Microsoft Sync Framework
<http://world.episerver.com/Blogs/David-Knipe/Dates/2009/11/Synchronising-EPiServer-VPP-folders-using-the-Microsoft-Sync-Framework/>

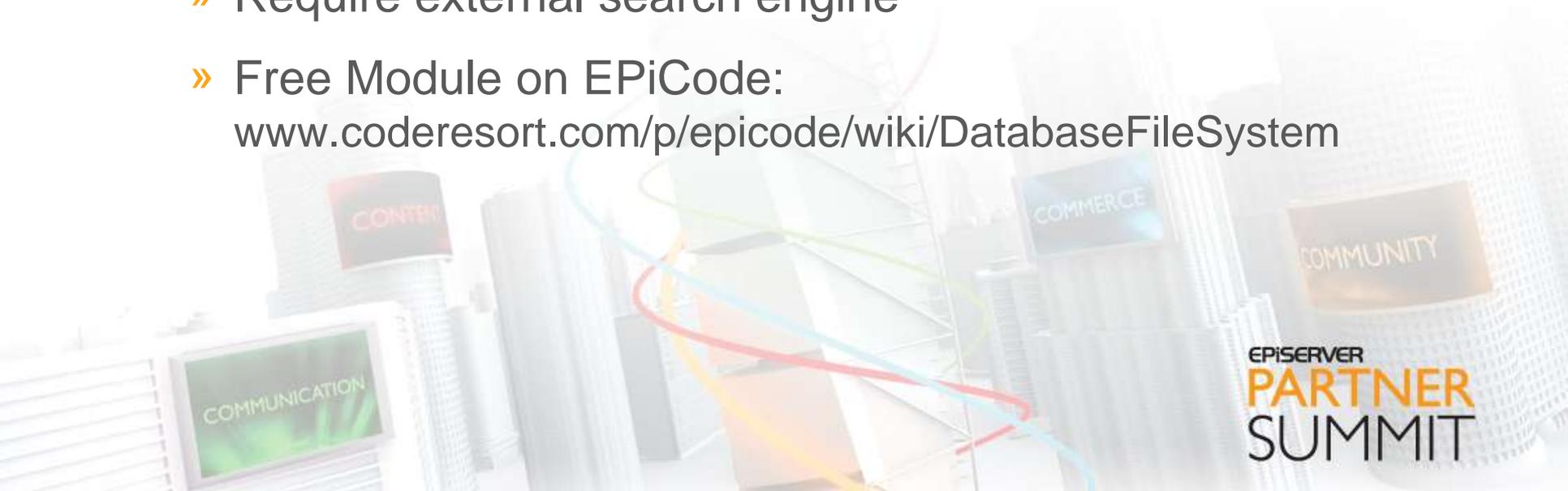
COMMUNICATION

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File Management – Database Filesystem

- » All files are stored in the database
- » No hassle, easy to set up
- » Require more space for the database
- » Caches files on the servers for optimal performance
- » Require external search engine
- » Free Module on EPiCode:
www.coderesort.com/p/epicode/wiki/DatabaseFileSystem



Cache Invalidation

- » Cache needs to be cleared on all servers when content is changed
- » Use UDP if possible
- » Requirements
 - Enable Events
 - Enable Remote Events
 - Add Http Module listener
 - Configure the <system.serviceModel>
- » Based on WCF, highly configurable
<http://world.episerver.com/Documentation/Items/Tech-Notes/EPiServer-CMS-5/EPiServer-CMS-5-R2-SP2/Event-Management-System-Specification/>

Cache Invalidation – Resources

» Test with the RemoteEventListener tool

<http://world.episerver.com/Documentation/Items/Tech-Notes/EPiServer-CMS-5/EPiServer-CMS-5-R2-SP2/Event-Management-System-Specification/>

» Read More:

- Fredrik Haglund's blog

blog.fredrikhaglund.se/blog/2009/09/22/episerver-cms-how-to-configure-remote-events-with-many-servers-and-firewalls-between-them/

- LoadBalancing in 6 steps

<http://labs.episerver.com/en/Blogs/Allan/Dates/112230/11/LoadBalancing-in-6-steps/>

- EPiServer FAQ 228

<http://world.episerver.com/FAQ/Items/Multicast-UDP-not-working/>

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Using RemoteEventListener

```
Command Prompt Here - EpiServerRemoteEventsListener.exe send
C:\Users\stevec\Desktop\Partner Summit\Deployment - Tips'n'tricks\EventListenerC
onfigs\general - udp>EpiServerRemoteEventsListener.exe send
Ready to send. Enter the data to send then press ENTER or press ENTER only to ex
it....
hello partnersummit
hello partnersummit

C:\Users\stevec\Desktop\Partner Summit\Deployment - Tips'n'tricks\EventListenerConfigs\general...
Listening. Press ENTER to exit.....

***** Event Start *****
Time           : 02.06.2010 21:08:34
Raiser Id      : fdc25b2a-5c90-490e-ab14-8acd103ea654
Site Id        : Test Site
Sequence Number : 1
Event Id       : c1a2ef00-4a9f-4263-b991-465a05d86f69
Param          : hello partnersummit
***** Event End *****
```

Continuous Integration

“Continuous integration describes a set of software engineering practices that speed up the delivery of software by decreasing integration times.”

en.wikipedia.org/wiki/Continuous_integration

» Some of the recommended practices:

- Use a source control management system
- Automate builds
- Make it easy to see the build results
- Commit often
- Automate deployment

Continuous Integration - Tools

- » CruiseControl.NET
 - <http://ccnet.thoughtworks.com>
- » TeamCity
 - <http://www.jetbrains.com/teamcity>
- » Microsoft Team Foundation System



You'll never look back

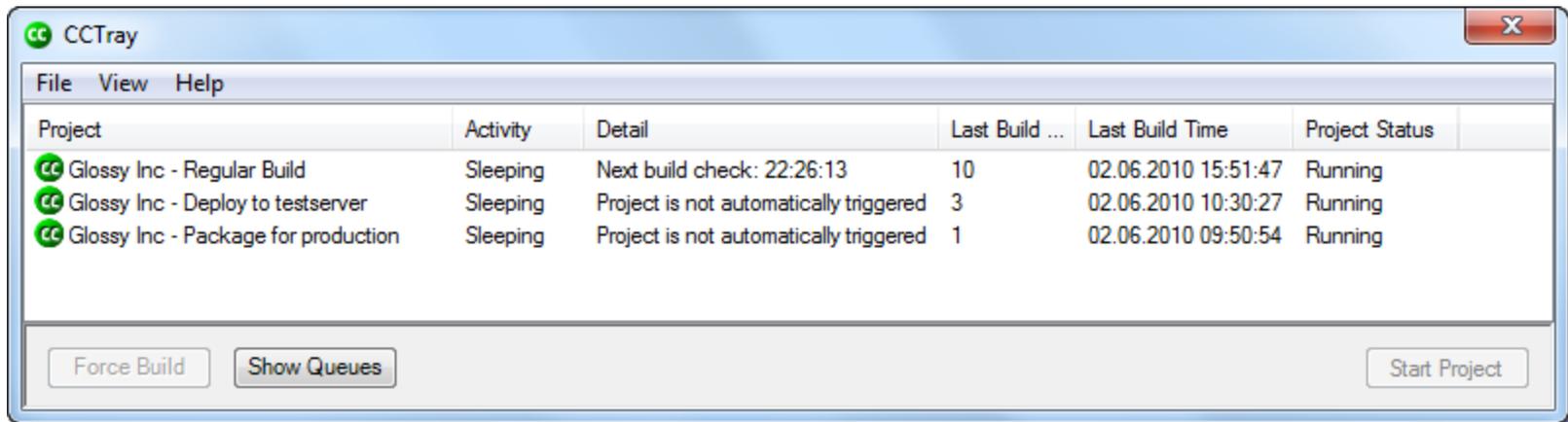
- » Catch build & integration errors early
- » Do not compile and package manually
- » Add css/js compression etc to your builds
- » Everyone on the team should be able to build
 - If not fully automated, pick a deployment responsible
- » Invaluable for maintenance
 - Keep the build server around (virtual?)
- » Prepare files or do the actual deployment directly from the tool (scripted)
 - Dev/Test could/should be deployed automatically

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CruiseControl.NET Tray Application



The screenshot shows the CCTray application window. The title bar reads "CCTray" with a close button. The menu bar includes "File", "View", and "Help". The main area contains a table with the following data:

Project	Activity	Detail	Last Build ...	Last Build Time	Project Status
CC Glossy Inc - Regular Build	Sleeping	Next build check: 22:26:13	10	02.06.2010 15:51:47	Running
CC Glossy Inc - Deploy to testserver	Sleeping	Project is not automatically triggered	3	02.06.2010 10:30:27	Running
CC Glossy Inc - Package for production	Sleeping	Project is not automatically triggered	1	02.06.2010 09:50:54	Running

At the bottom of the window, there are three buttons: "Force Build", "Show Queues", and "Start Project".



Glossy Inc - Regular Build Build Successful: Build 4 Inbox | X

☆ **build** to steve

10:05 AM (50 minutes ago)

Reply to all ▼

CruiseControl.NET Build Results for project Glossy Inc - Regular Build ([web page](#))

BUILD SUCCESSFUL

Project: Glossy Inc - Regular Build

Date of build: 2010-06-02 10:05:44

Running time: 00:00:02

Integration Request: Build (IfModificationExists) triggered from IntervalTrigger

Last changed: 2010-06-02 10:04:58

Last log entry: Changed length of preview text on front page

Modifications since last build (1)

Modified	steve	/trunk/website/Default.aspx	Changed length of preview text on front page	2010-06-02 10:04:58
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Configuration – IIS

» IIS 6 vs. 7

- Oh my
- Features and stuff
- Develop on same (or near) production IIS version
- See tech note: [Changes Between IIS6 and IIS7](#)

» Config on IIS 7 is way better than IIS 6

- Easier deployment
- IIS Management Console saves to config files
- Make sure you know about “Feature Delegation”

More Configuration – IIS

- » Add server name to http headers in load balanced environments
- » Machine Keys can be generated in IIS 7
- » Application Pool Settings
 - Recycling on specific times (02:00)
- » Turn off Debug (remember to compile for release)
 - 10% better performance
 - Times out during long running requests

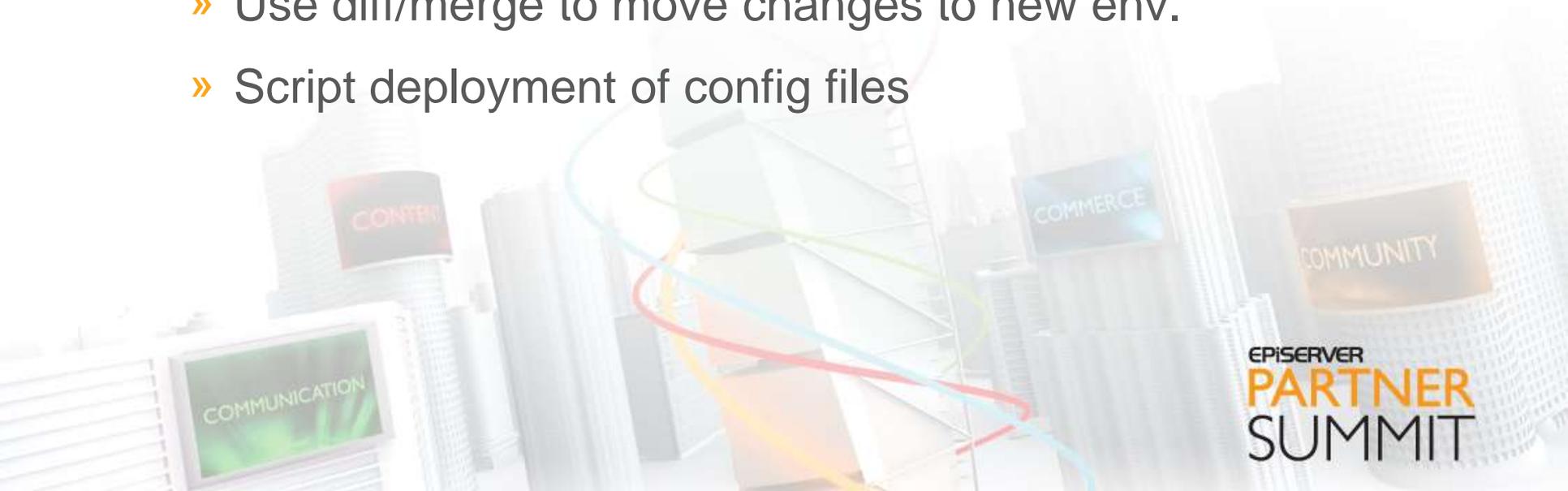
Even More Configuration – IIS

- » Client caching
 - Set cache timeout for VPPs
 - Use YSlow or similar to test
- » Output caching



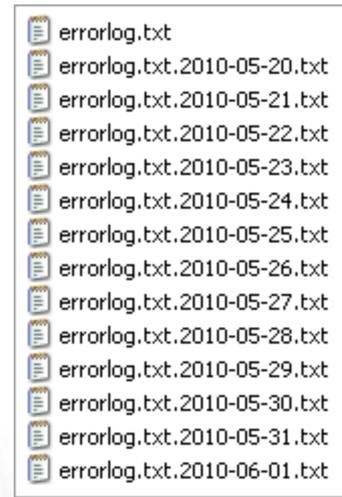
Configuration Change Management

- » Keep configuration under source control
 - Except connectionStrings.config and other security sensitive data
- » Split into section files (configSource)
 - Only split sections that differ
- » Use diff/merge to move changes to new env.
- » Script deployment of config files



Log4net

- » Set up Rolling File Appender
 - Beware of buffering
 - File Appender does not buffer
- » Use Warn (not Debug)
- » Do not log to C:
- » Plan to roll logs
 - Do not fill the drive with log files
 - Don't forget the IIS logs



Security

- » Remove IIS features you do not use
 - "Server Manager" or "Turn Windows features on or off"
 - <http://learn.iis.net/page.aspx/29/installing-iis-7-on-windows-server-2008-or-windows-server-2008-r2/>
- » Encrypt the connectionStrings.config file
 - "C:\Windows\Microsoft.NET\Framework\v2.0.50727\aspnet_regiis.exe"
 - pef "connectionStrings" "c:\episerver\sites\mysite"
 - prov "DataProtectionConfigurationProvider"
- » Remove UI folder on front end server
- » IIS Lock Down and other tools
- » Stop EPiServer Services not in use

Security - Continued

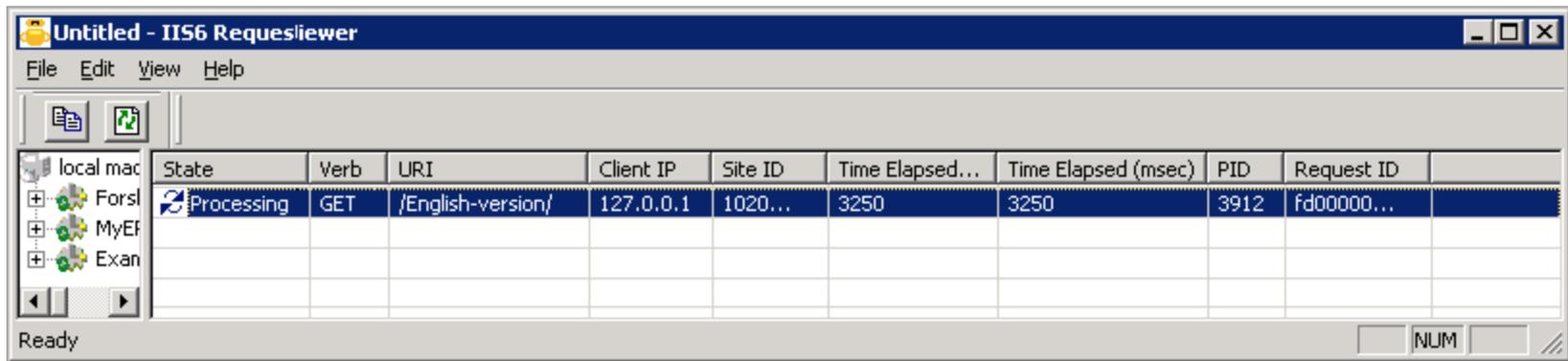
- » Remove test users from the database
- » Remove test content from the site
- » Verify that your folder structure is secured
 - Modules with .aspx files that does not check sec.
 - Editor/admin pages that skips authentication
- » Remove “X-Powered-By” header
- » Do you need SSL?
 - Forms auth sends username and password in clear text

After Launch

- » Having performance problems?
 - Can you use output caching?
- » Log to see what happens
- » Use Performance Monitor to get a better view
 - Requests / Sec
 - Requests Total
 - Memory Usage (process)
 - CPU Usage (w3 process)
 - Cache utilization
 - Errors Total

Identify bottle necks

- » See running IIS Request
 - Win 2003: IIS Trace Diagnostics



The screenshot shows the 'Untitled - IIS6 Requestviewer' window. The menu bar includes 'File', 'Edit', 'View', and 'Help'. The toolbar contains icons for file operations. On the left, a tree view shows 'local mac' with sub-items 'Forsl', 'MyEP', and 'Exan'. The main area is a table with the following data:

State	Verb	URI	Client IP	Site ID	Time Elapsed...	Time Elapsed (msec)	PID	Request ID
Processing	GET	/English-version/	127.0.0.1	1020...	3250	3250	3912	fd00000...

The status bar at the bottom shows 'Ready' and a 'NUM' field.

- "C:\Program Files\IIS Resources\TraceDiag\iisreqmon.exe"
- » Win 2008: Use IIS Manager
 - Server / Worker Processes / App Pool / Requests

Other Resources

- » Checklist for deploying EPiServer sites
 - <http://labs.dropit.se/blogs/post/2010/01/10/Checklist-for-deploying-EPiServer-sites.aspx>
- » Complex EPiServer CMS Projects
 - <http://world.episerver.com/Get-Started/Complex-EPiServer-CMS-Projects/>





evest

