

Welcome

To Advance through Presentation
Use Page Up and Page Down Keys



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WebObjects



“This year’s Software Product of the Year is Apple Computer’s WebObjects 4.0... Along with substantial power and flexibility, WebObjects brings an ease of development rarely seen in industrial-strength development environments.”





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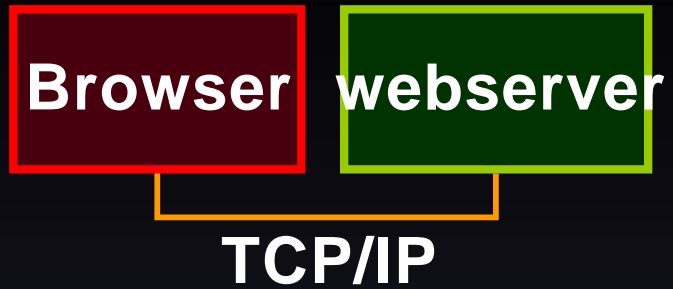
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Deploying WebObjects

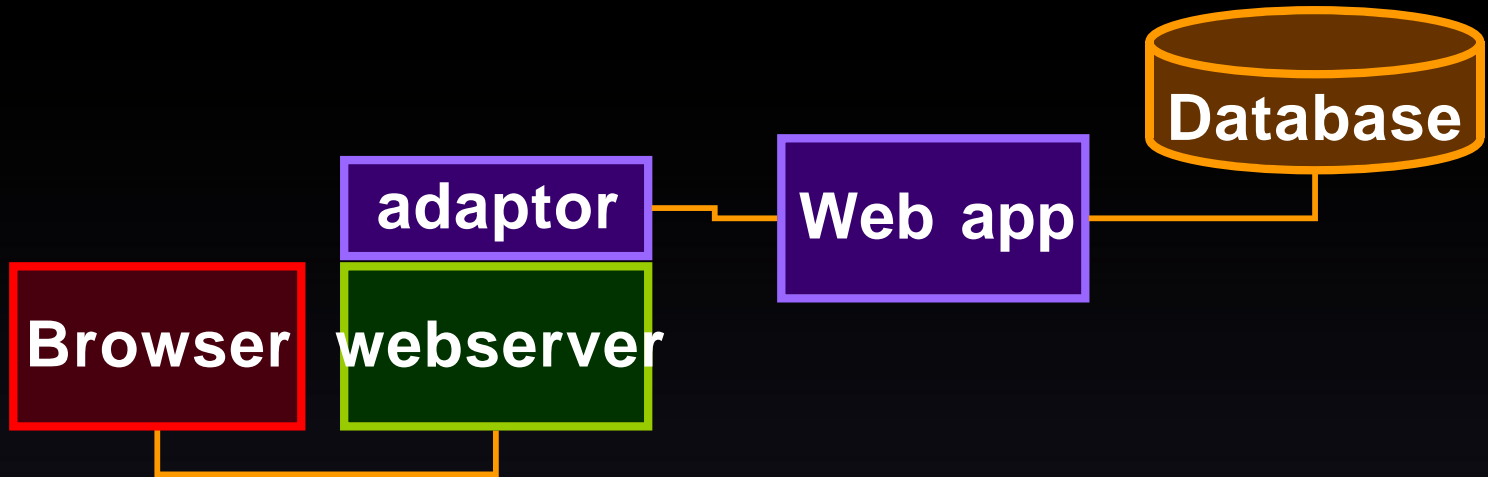
Aaron Hillegass

Consulting Engineer

The Web



The Web App

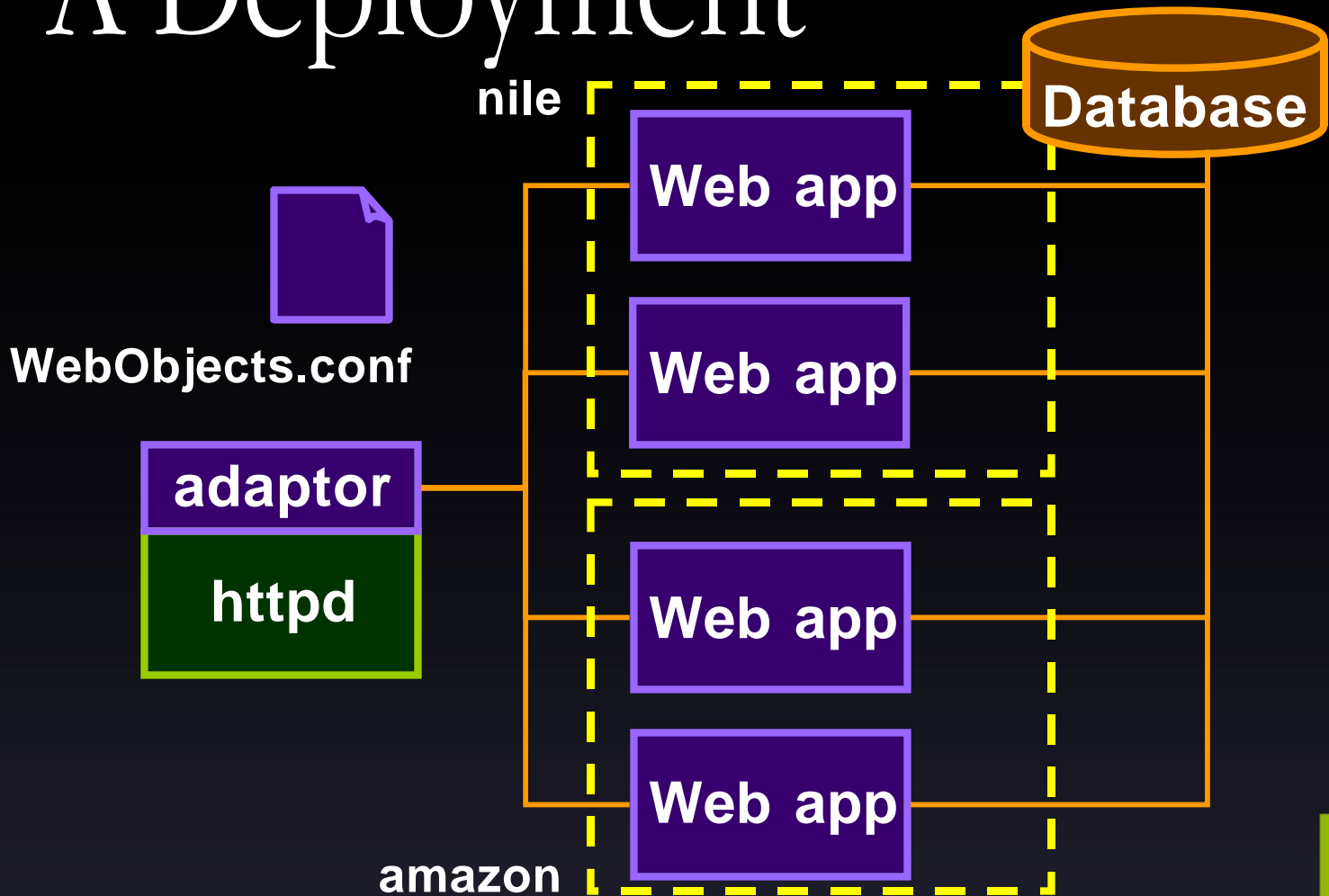


Operating Systems

- MacOS X
- NT 4.0
- Solaris 2.6
- HP-UX



A Deployment



WebObjects.conf

MyApp:1 @nile 2222

MyApp:2 @nile 2223

MyApp:3 @amazon 2224

MyApp:4 @amazon 2225



Monitor

- Generates WebObjects.conf file
- Starts and stops instances
- Emails admin when app crashes
- Records exceptions
- Gathers statistics



WebObjects.conf

adaptor

httpd

Monitor

Web app

Web app

Web app





Web app







Monitor
Proxy



Monitor

SunSage

 **Refresh**
 **Add Instance**
 **Start All**
 **Stop All**

	Host - Port	Status	Schedule	Auto Recover	Refuse New Sessions	Statistics						WOSTats	Configure	
						Transactions	Active Sessions	Average Transaction	Average Idle Period	Deaths	Exceptions			
1	frog2001	 ON	ON	ON	OFF	18	2	0.767	9.30	0	0	 WOSTats	 Config	Delete
2	frog2002	 ON	ON	ON	OFF	52	4	0.771	1.84	0	0	 WOSTats	 Config	Delete
Totals						70	6	0.770	3.760					



Instance Cycling

- Instances grow while they run
- Monitor can cycle:
 - Tells instance to refuse new sessions
 - When sessions are gone, instance is killed and restarted



Performance

- Involves
 - Database response time
 - Bandwidth
 - Web app performance
 - RAM
 - CPU
- Load, Measure, Improve, Repeat



Record and Playback

- Record a series of requests
 - Realistic requests are better
 - Requests should return things to the original state
- Playback to create a load



Record

- `./MyApp -WOWRecordingPath /tmp/tape1`
- Creates a directory called `/tmp/tape1.rec` containing a record of every request handled by the instance



Playback

```
> java -classpath  
    "/System/Library/WebObjects/Applications/PlaybackManager.woa/WebServerResources/Java  
    ;  
    /System/Library/JavaVM.framework/Classes/classes.jar;"  
    com.apple.client.playback.Playback -r /tmp/tape1.rec
```

¥Plays back the requests saved
/tmp/tape1.rec



Statistics

Application Statistics					
	Transactions	Average Transaction Time	Average Idle Time	Moving Average* Transaction Time	Moving Average* Idle Time
Overall	168	1.003	1.770	1.031	1.737
Component Actions	165	0.993	NA		NA
Direct Actions	3	2.298	NA		NA
Started at	15:07:30 (-0400 US/Eastern) on Thu, Apr 29 1999				
Running time	0 days, 0 hours, 7 minutes, 44 seconds				



Database

- Turn on logging:

```
EOAdaptorContext.setDebugEnabledDefault(true)  
;
```

- Look at your SQL
- Use EXPLAIN PLAN
- Add indexes



Web App

- Turn on caching:
 - WOCachingEnabled YES
- Turn off debugging:
 - WODebuggingEnabled NO
- Single-thread:
 - WOWorkerThreadCount 0
- Try adding more instances



Got Bandwidth?

- Bandwidth between
 - Browser and httpd
 - httpd and app
 - App and database
- Check traffic with a sniffer



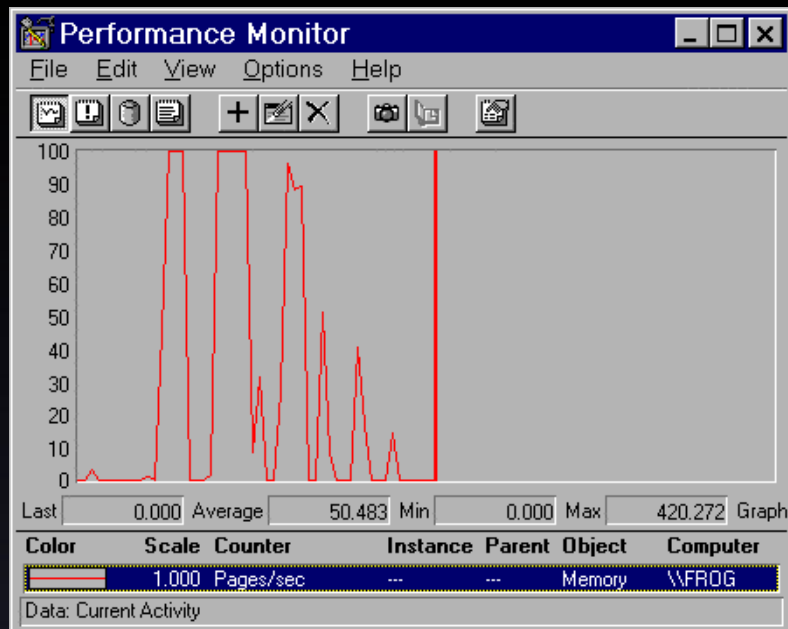
Got RAM? (Unix)

- Solaris
 - Use vmstat and scan rate (sr)
 - Should be < 100 scans/sec
- OS X
 - Use vm_stat 5
 - Should be < 500 faults
- Ignore the first line!



Got RAM? (NT)

- Performance Manager
- < 100 Pages/sec

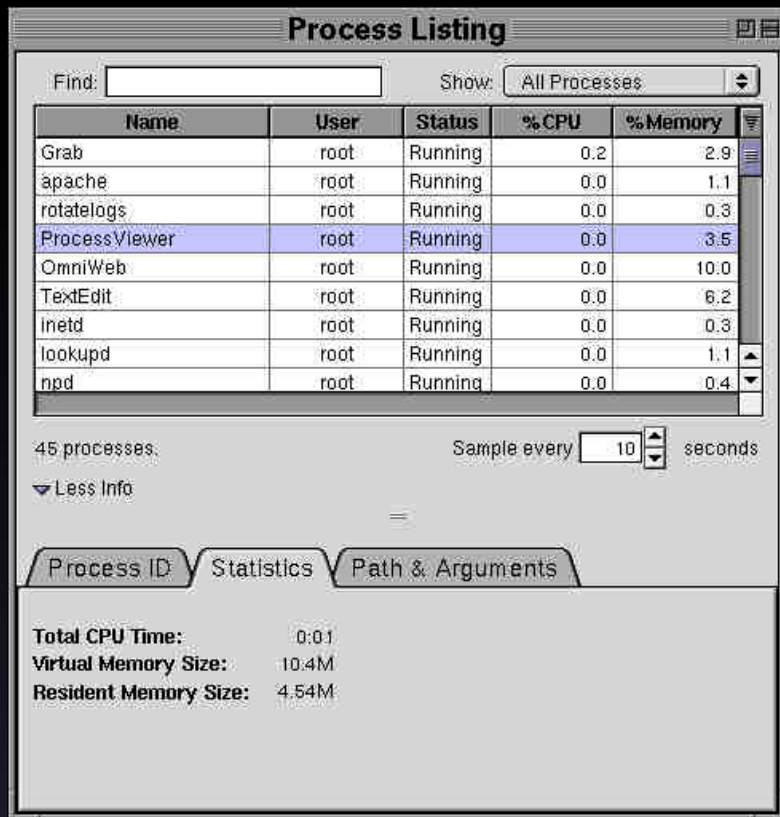


Memory Problems?

- Buy more RAM
- Minimize session data
- Cycle apps using Monitor
- Look at memory for each process:
 - Task manager on NT
 - ps on Unix



Got CPU? (Unix)



Process Listing

Find: Show: All Processes

Name	User	Status	%CPU	%Memory
Grab	root	Running	0.2	2.9
apache	root	Running	0.0	1.1
rotatelogd	root	Running	0.0	0.3
ProcessViewer	root	Running	0.0	3.5
OmniWeb	root	Running	0.0	10.0
TextEdit	root	Running	0.0	6.2
inetd	root	Running	0.0	0.3
lookupd	root	Running	0.0	1.1
ngd	root	Running	0.0	0.4

45 processes. Sample every 10 seconds

Less Info

Process ID Statistics Path & Arguments

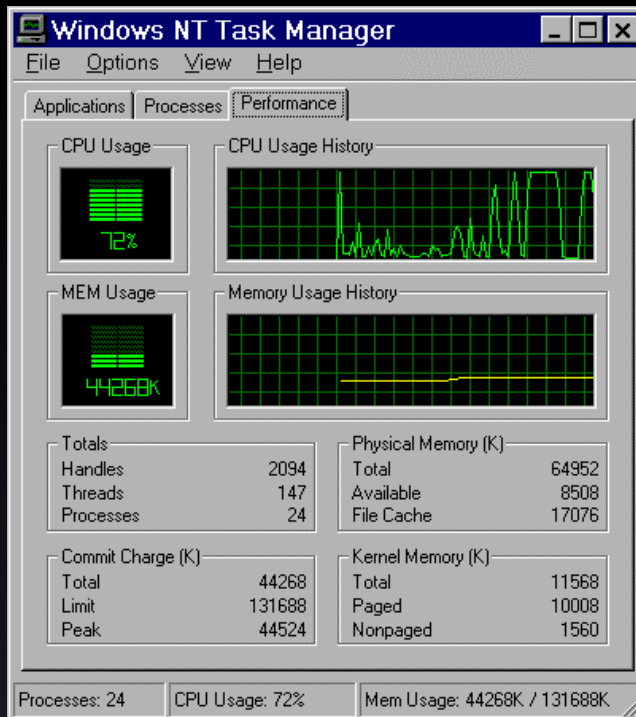
Total CPU Time: 0.01
Virtual Memory Size: 10.4M
Resident Memory Size: 4.54M

- Uptime gives load averages for 1, 5, and 15 minutes
- vmstat gives user (us), system (sy), and idle (id) time



Got CPU? (NT)

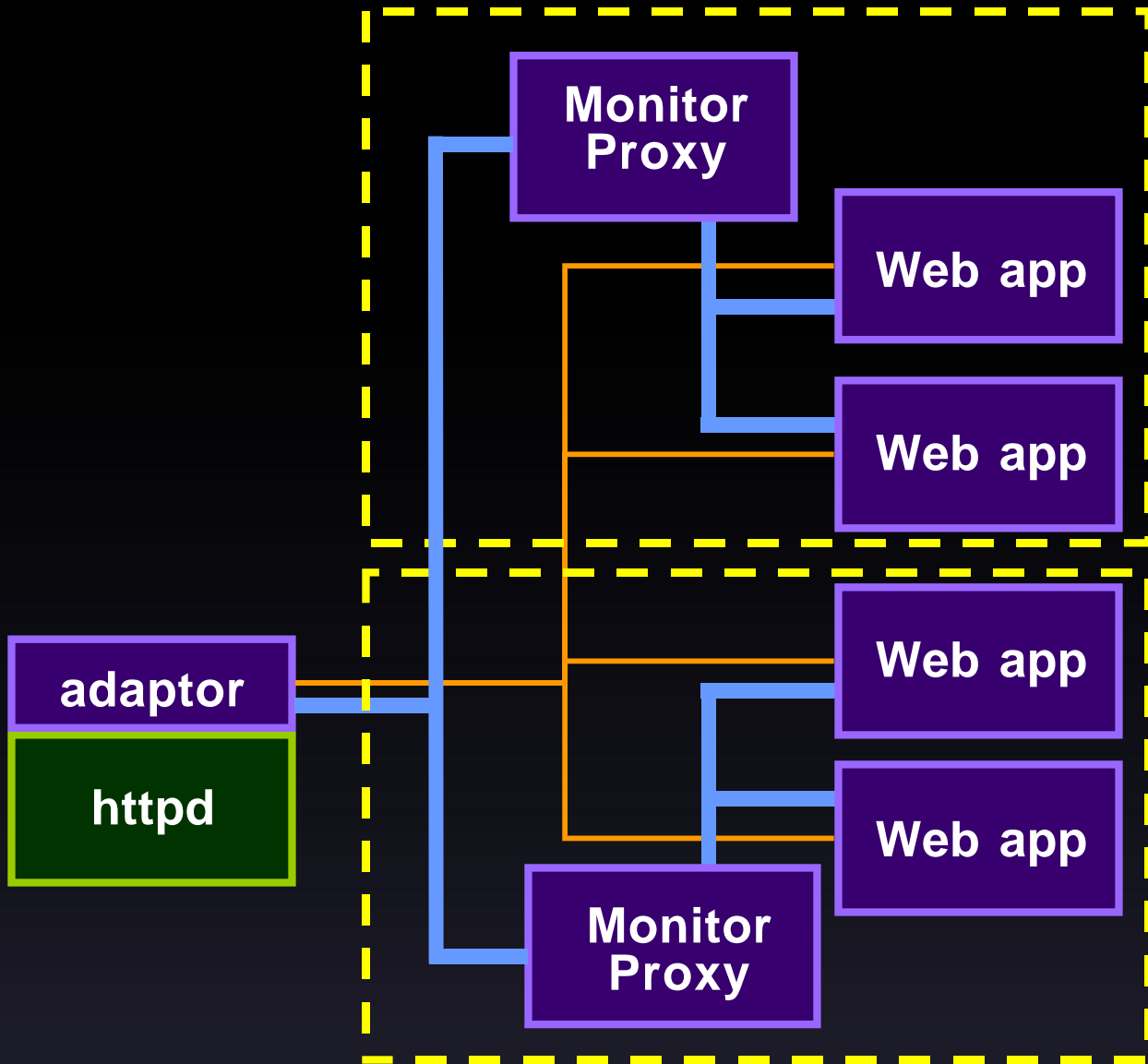
- Check Task Manager



Security

- Don't give the world access to Monitor
- Encrypt passwords before saving in database
- Use firewalls





WebObjects Sessions

**Generating Reports in
WebObjects Apps**

Hall B
Wed., 1:00pm

**Debugging Techniques
in WebObjects**

Hall B
Wed., 2:30pm

**Fine-Tuning the
Performance of WebObjects**

Hall B
Wed., 4:00pm



WebObjects Sessions

**Complex WebObjects
Application Design**

Hall B
Thur., 9:00am

**WebObjects:
Tips from the Experts**

Hall B
Thur., 10:15am

**Advanced HTML/DHTML/
JavaScript Tips and Tricks**

Hall B
Thur., 4:00pm





Think different.TM



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