



Instant Publishing and Greater Traffic

How to create a more dynamic presence for your news website with eZ Publish and Varnish?

Discover the newest extension eZ Accelerator!



CHALLENGES AND OBJECTIVES

- ⌚ Managing heavy web traffic using eZ Publish
- ⌚ Achieving greater responsiveness during publishing

STATE OF THE ART: EXISTING SOLUTIONS

- ⌚ Natives solutions
 - ⌚ Classic
 - ⌚ eZ DFS Cluster
 - ⌚ Static Cache
- ⌚ Specific solution
 - ⌚ Specific static publishing
- ⌚ Third-party solution
 - ⌚ Cache server on top (Varnish or CDN)

THE NOVACTIVE SOLUTION: A NEW EXTENSION

- ⌚ eZ Accelerator



Challenges and Objectives

Challenges

- ① eZ Publish is the most powerful Open-Source CMS
 - ② Meets all the needs of content management
 - ② Allows all types of design
 - ② Has high scalability
- ① However greater flexibility and performance come at price: over loading database requests
- ① This can create performance problems in the event of heavy images and/or high traffic

Objectives

- ① Deploy eZ Publish for news websites so they may handle high traffic requests
 - ② Load balancing of traffic
 - ② Preserving the scalability
 - ② Seeking an instant publication tool: current challenge of news websites
- ① Avoiding multiple specific developments
 - ② Long and costly
 - ② Reduces the scalability of a platform



Native Solutions

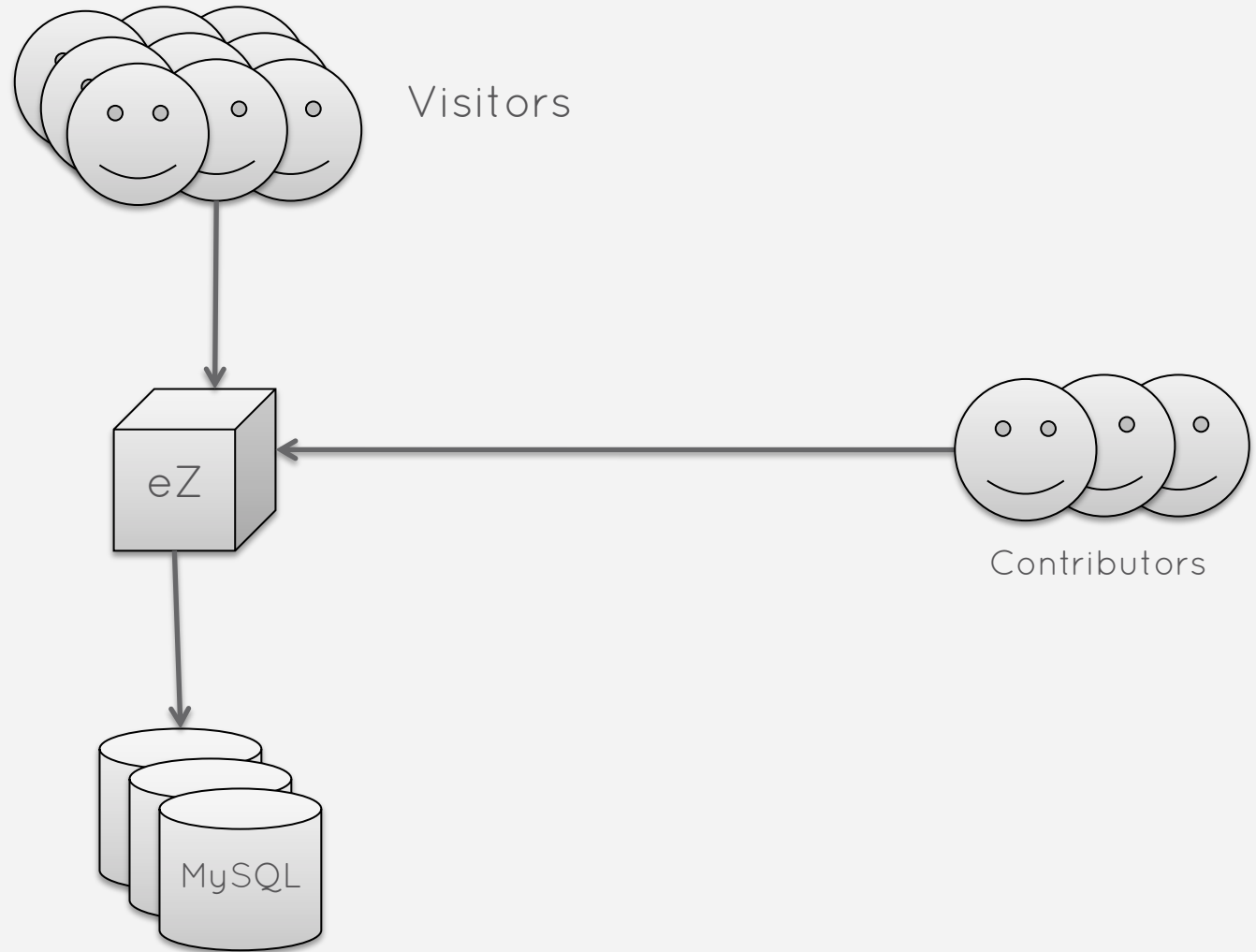
eZ Publish 4.X



1. Classic Architecture



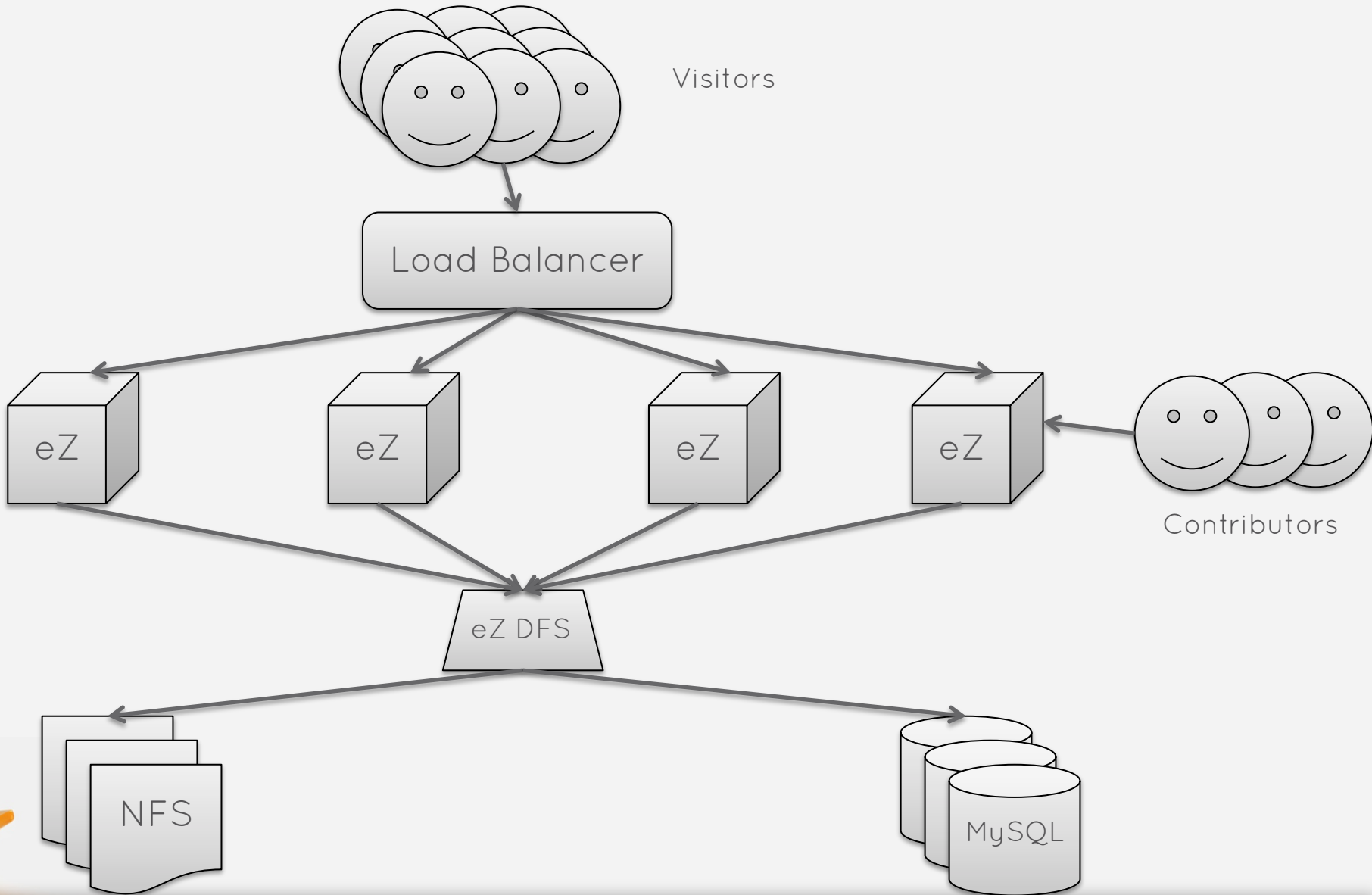
1. Classic Architecture



2. eZ DFS Classic Architecture



2. eZ DFS Classic Architecture



2. Classic and eZ DFS Architecture

Benefits

- ⓪ Optimal cache management
- ⓪ Instant publishing

Disadvantages

- ⓪ Database will be under significant demand
- ⓪ Performance is directly related to the quality of code and design choice
- ⓪ Heavily dependent on the amount of content and users / contributors

Use Case

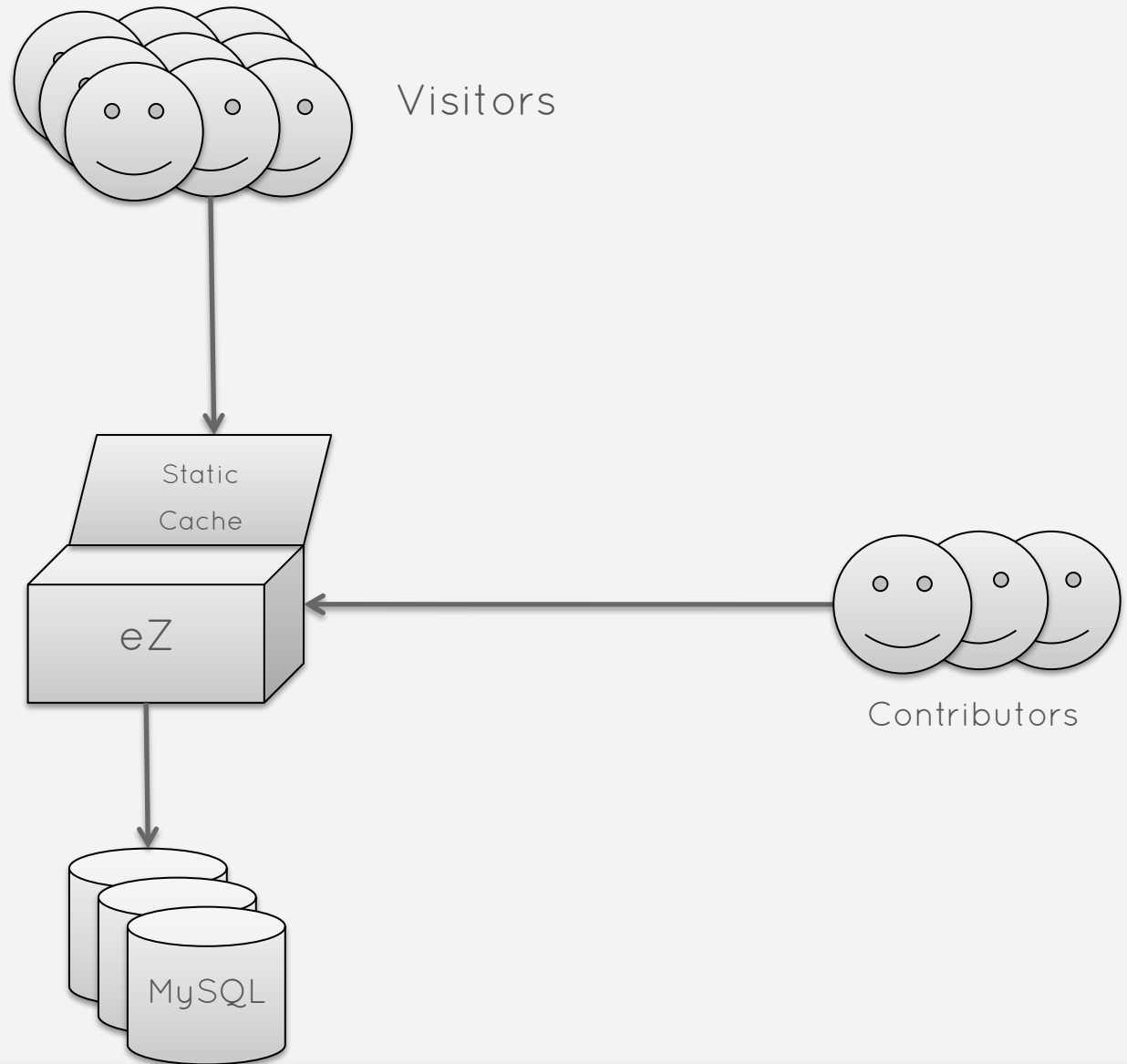
- ⓪ Inadequate for objectives:
 - ⓪ > 100 pages/sec
 - ⓪ > 150 K objects eZ
- ⓪ Suitable for sites with limited traffic



3. Classic + Static Cache Architecture



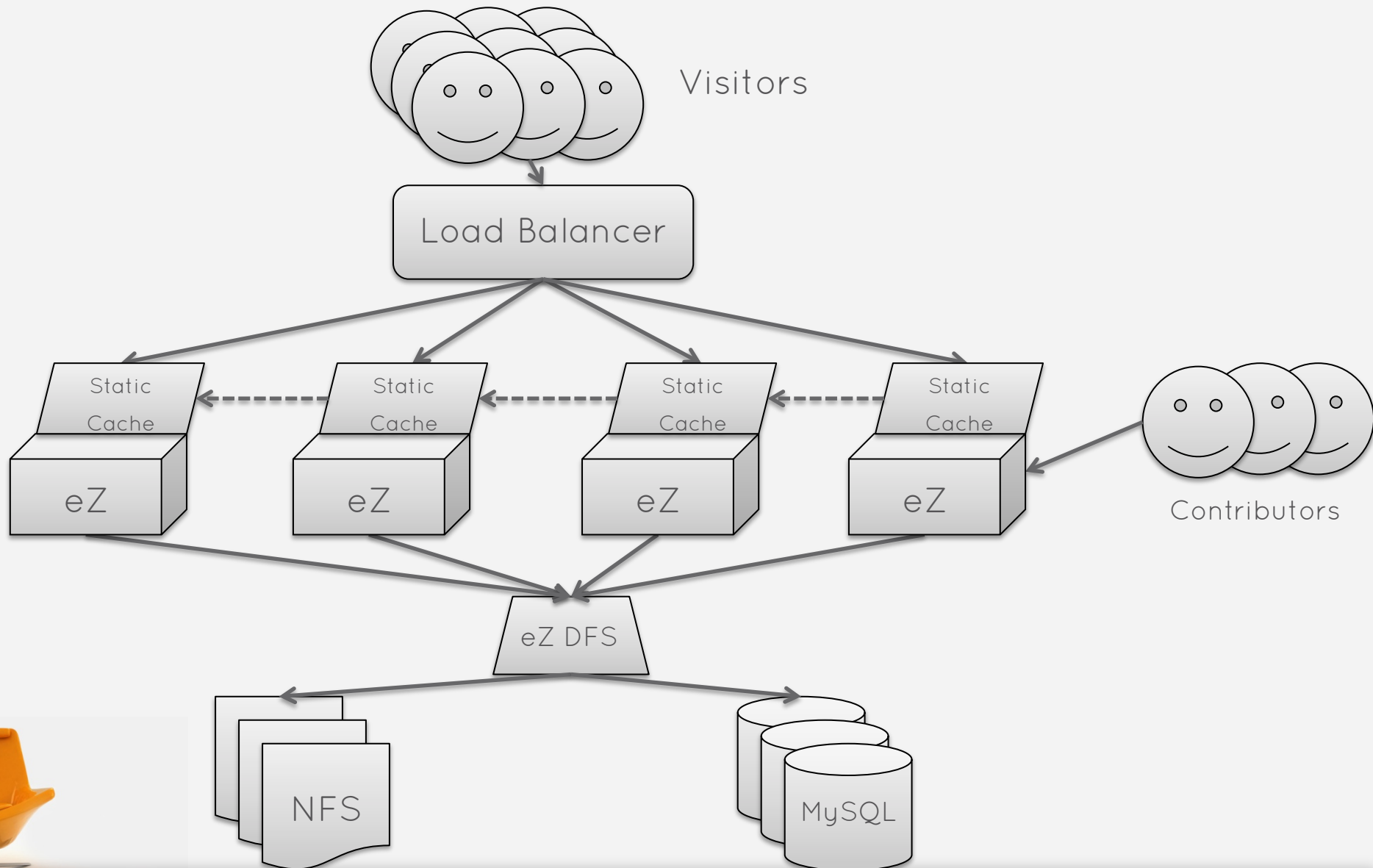
3. Classic + Static Cache Architecture



4. eZ DFS + Static Cache Architecture



4.eZ DFS+Static Cache Architecture-Multi Front



4. eZ DFS + Static Cache Architecture

Benefits

- ⌚ Perfect reliability when experiencing high traffic
- ⌚ Does not require a cache server

Disadvantages

- ⌚ Not very flexible: Does not offer solutions for transverse block management (Ex: Site menu / footer / ...)
- ⌚ Very heavy cache clearing
- ⌚ Does not handle all potential node views of a content
- ⌚ Problem in connected mode (Full AJAX or no cache)
- ⌚ Apache is always solicited (and less powerful than Varnish)

Use cases

- ⌚ Adapted for sites with high traffic with institutional content
- ⌚ Not suitable for sites with many transverse blocks and high contribution, as for example media and/or news sites.



Other solution:
Adding a cache server on top

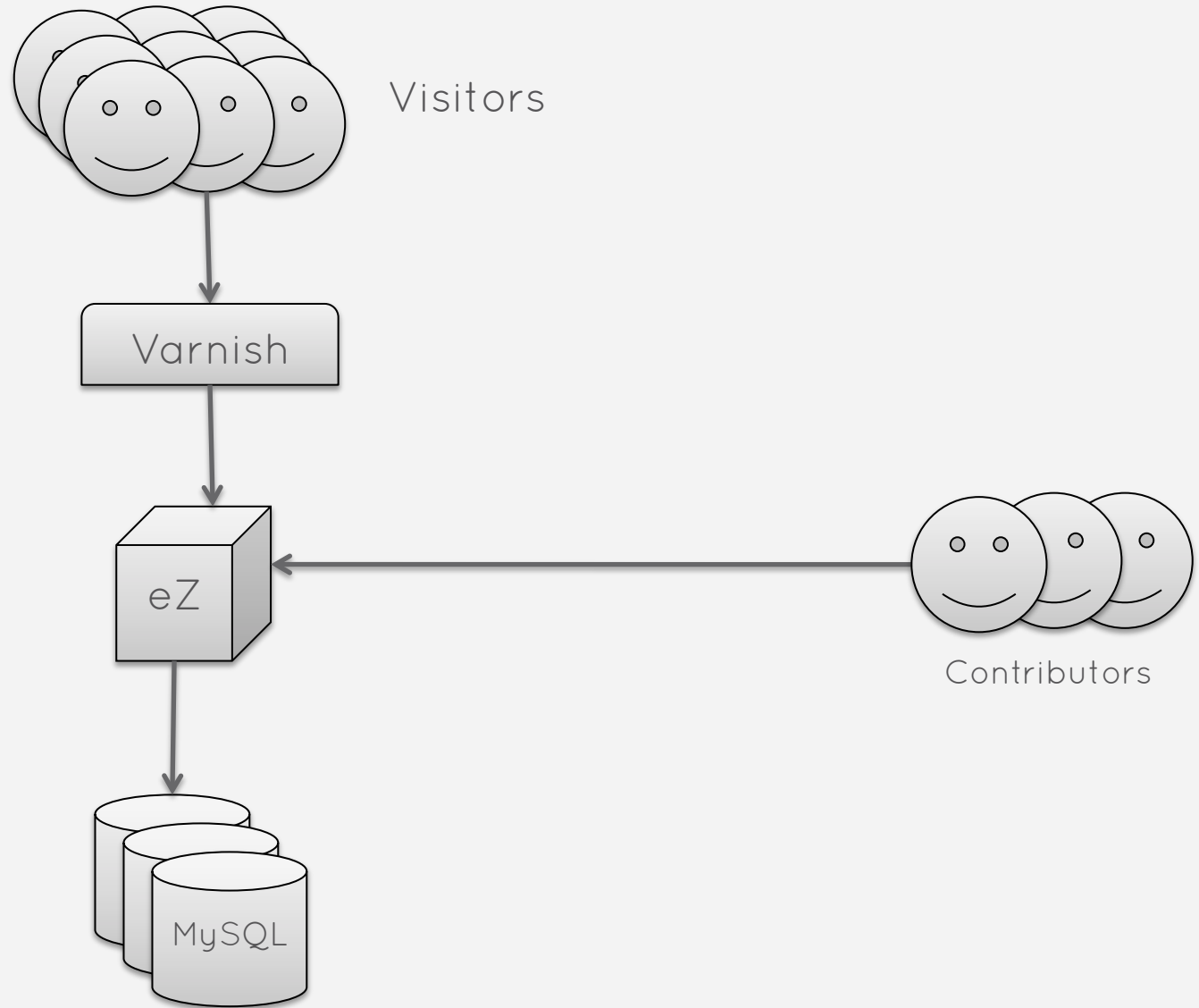
For example: Varnish



1. Classic Architecture + Varnish



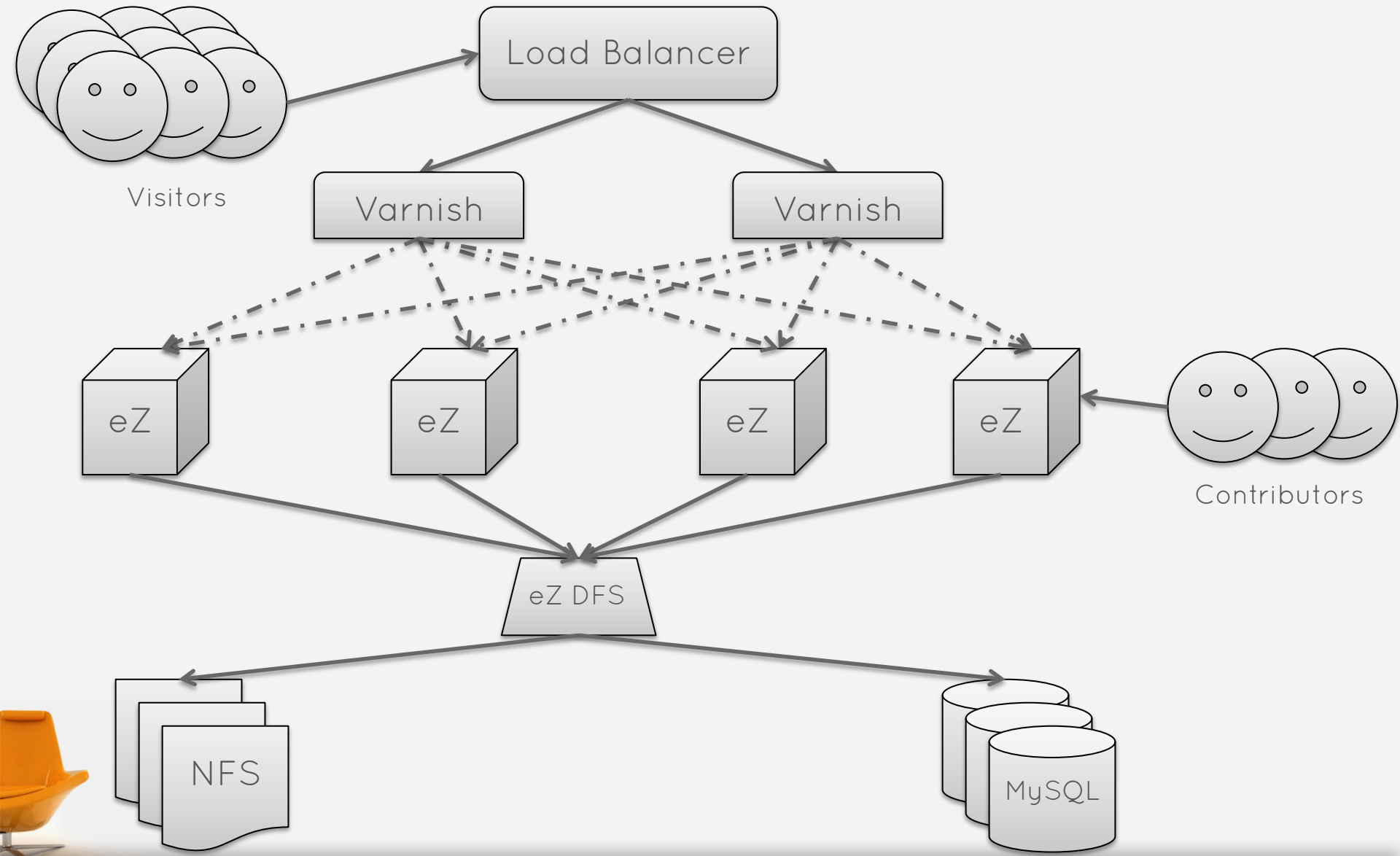
1. Classic Architecture + Varnish



2. eZ DFS Architecture + Varnish



2. eZ DFS Architecture + Varnish



2. Architecture eZ DFS + Varnish

Benefits

- ④ No development is needed (except connected party)
- ④ Flexible cache management
- ④ Transparency with the application

Disadvantages

- ④ Managing the connected party?
- ④ Works on a short TTL (Time To Live)
- ④ Delaying the publication with $2 \times \text{TTL}$ time
- ④ Induced time lag of contents
- ④ The permanent dilemma:
 - ④ The greater the TTL is, the less responsive it is.
 - ④ The more you reduce the TTL, the less capable you are of handling high traffic



How to do better?



Combine advantages of each solution

- ④ Classic eZ DFS Cluster
 - ④ Optimal cache management
 - ④ Instant publishing
- ④ eZ DFS Cluster - Static Cache
 - ④ Reliability
- ④ Cache Server
 - ④ Flexible cache management
 - ④ Transparency of the application

...and remove all disadvantages.



Our solution

eZ Accelerator



A connector between Varnish and eZ Publish

Principle:

- ④ Clear specific and targeted Varnish Cache at the end of the publication process.
- ④ On all relatives URLs:
 - ④ Of a content
 - ④ Of related node connections with the content view caching process
- ④ In other words, all rules of the content view cache are respected in Varnish purge!



eZ Accelerator in details:

- ① a control interface to clear specific Varnish caches
- ② The management of several Varnish servers.

The screenshot shows the eZ Accelerator web interface. At the top is a navigation bar with tabs for Dashboard, Content structure, Media library, User accounts, Setup, eZ Accelerator, and Service portal. The 'eZ Accelerator' tab is active. To the right of the navigation bar are links for 'Logout admin' and a search box labeled 'Search in all content'. Below the navigation bar, the breadcrumb path reads 'You are here: [Purge Varnish](#)'. On the left side, there is a sidebar menu for 'eZ Accelerator' with sub-items: Controls (Status, Ping, Params, Help) and Actions (Purge). The main content area is titled 'Varnish Purge' and contains a form with the following elements: a 'Purge' section with a 'Url (regex):' text input field; a 'Purge on :' section with two radio button options, 'varnish1' and 'varnish2'; and a 'Valid' section with a 'Valid' button. The novactive logo is visible in the bottom left corner of the interface.

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eZ Accelerator in details:

- ① Multi-site access management
- ① Varnish cache purging
 - ① On publication (take care of workflow process),
 - ① Manually via
 - ❖ A new button in the administration interface
 - ❖ A CLI script

Logout admin Search in 'Home'

Dashboard Content structure Media library User accounts Setup eZ Accelerator Service portal

You are here: [Home](#) / [Getting started](#) / [News](#) / eZ Publish 4.5 features

Content structure

Home

- Events
- Getting started
- Live Video

Trash

eZ Publish 4.5 features [Folder]

Last modified: 04/03/2011 6:32 am, Administrator User (Node ID: 107, Object ID: 105) English (United Kingdom)

View Details Locations (1) Relations (0) Ordering

eZ Publish 4.5 features

Show children:
Yes

Edit Move Remove **Clear Varnish cache for this node** Manage versions

Dashboard Content structure Media library User accounts Setup eZ Accelerator Service portal

You are here: [Home](#) / [Getting started](#) / [News](#) / eZ Publish 4.5 features

Content structure

Home

- Events
- Getting started
- Live Video

Trash

The Varnish cache have been cleared. [13/10/2011 12:35 pm]

Purge of 4 nodes :

- [/Getting-started/News/eZ-Publish-4.5-features](#)
 - varnish1 - [See more](#)
 - varnish2 - [See more](#)
- [/Getting-started/News](#)
 - varnish1 - [See more](#)
 - varnish2 - [See more](#)
- [/Getting-started](#)
 - varnish1 - [See more](#)
 - varnish2 - [See more](#)
- [/](#)
 - varnish1 - [See more](#)
 - varnish2 - [See more](#)

eZ Publish 4.5 features [Folder]

Last modified: 04/03/2011 6:32 am, Administrator User (Node ID: 107, Object ID: 105) English (United Kingdom)

View Details Locations (1) Relations (0) Ordering

eZ Publish 4.5 features

The screenshot shows the eZ Accelerator administration interface. At the top, there is a navigation bar with a logo on the left and a search box on the right containing the text 'Search in 'Home'' and a magnifying glass icon. Below the navigation bar is a horizontal menu with buttons for 'Dashboard', 'Content structure', 'Media library', 'User accounts', 'Setup', 'eZ Accelerator', and 'Service portal'. The 'Service portal' button is highlighted in orange.


Below the menu, a breadcrumb trail reads: 'You are here: [Home](#) / [Getting started](#) / [News](#) / eZ Publish 4.5 features'. On the left side, there is a 'Content structure' sidebar showing a tree view with 'Home', 'Events', 'Getting started', and 'Live Video'. A 'Trash' icon is also visible.

The main content area displays a folder view for 'eZ Publish 4.5 features [Folder]'. It includes a folder icon, the title, and metadata: 'Last modified: 04/03/2011 6:32 am, Administrator User (Node ID: 107, Object ID: 105)' and 'English (United Kingdom)'. Below the metadata are tabs for 'View', 'Details', 'Locations (1)', 'Relations (0)', and 'Ordering'. The 'View' tab is active, showing the folder name 'eZ Publish 4.5 features' and the text 'Show children: Yes'. At the bottom of the folder view, there are buttons for 'Edit', 'Move', 'Remove', 'Clear Varnish cache for this node', and 'Manage versions'.

You are here: [Home](#) / [Getting started](#) / [News](#) / eZ Publish 4.5 features

Content structure

- Home
- Events
- Getting started
 - Live Video
- Trash


 **The Varnish cache have been cleared.** [13/10/2011 12:35 pm]
Purge of 4 nodes :

- [/Getting-started/News/eZ-Publish-4.5-features](#)
 - varnish1 - [See more](#)
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 - varnish1 - [See more](#)
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- [/Getting-started](#)
 - varnish1 - [See more](#)
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- [/](#)
 - varnish1 - [See more](#)
 - varnish2 - [See more](#)



eZ Publish 4.5 features [Folder]

Last modified: 04/03/2011 6:32 am, [Administrator User](#) (Node ID: 107, Object ID: 105)

English (United Kingdom) 

-
- View
- Details
- Locations (1)
- Relations (0)
- Ordering

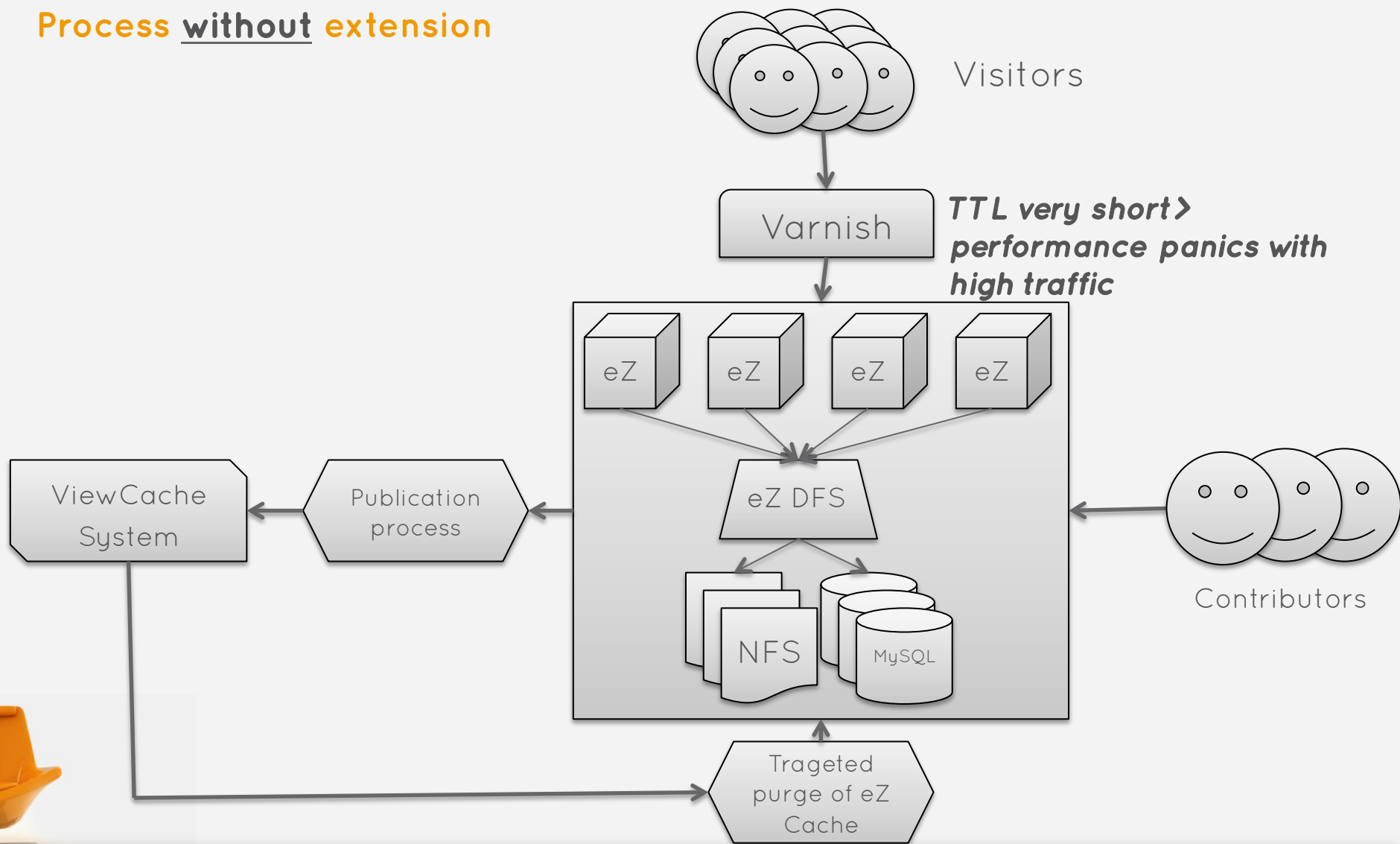
eZ Publish 4.5 features

- ⌚ No slowdown in the publication process (daemon)
- ⌚ StaleCache management, which in turn does not hide any obsolete pages in Varnish
- ⌚ Some template operators for managing ESI (and block)
- ⌚ A Varnish 3 configuration file optimized for eZ Publish
- ⌚ Interface available in FR and EN



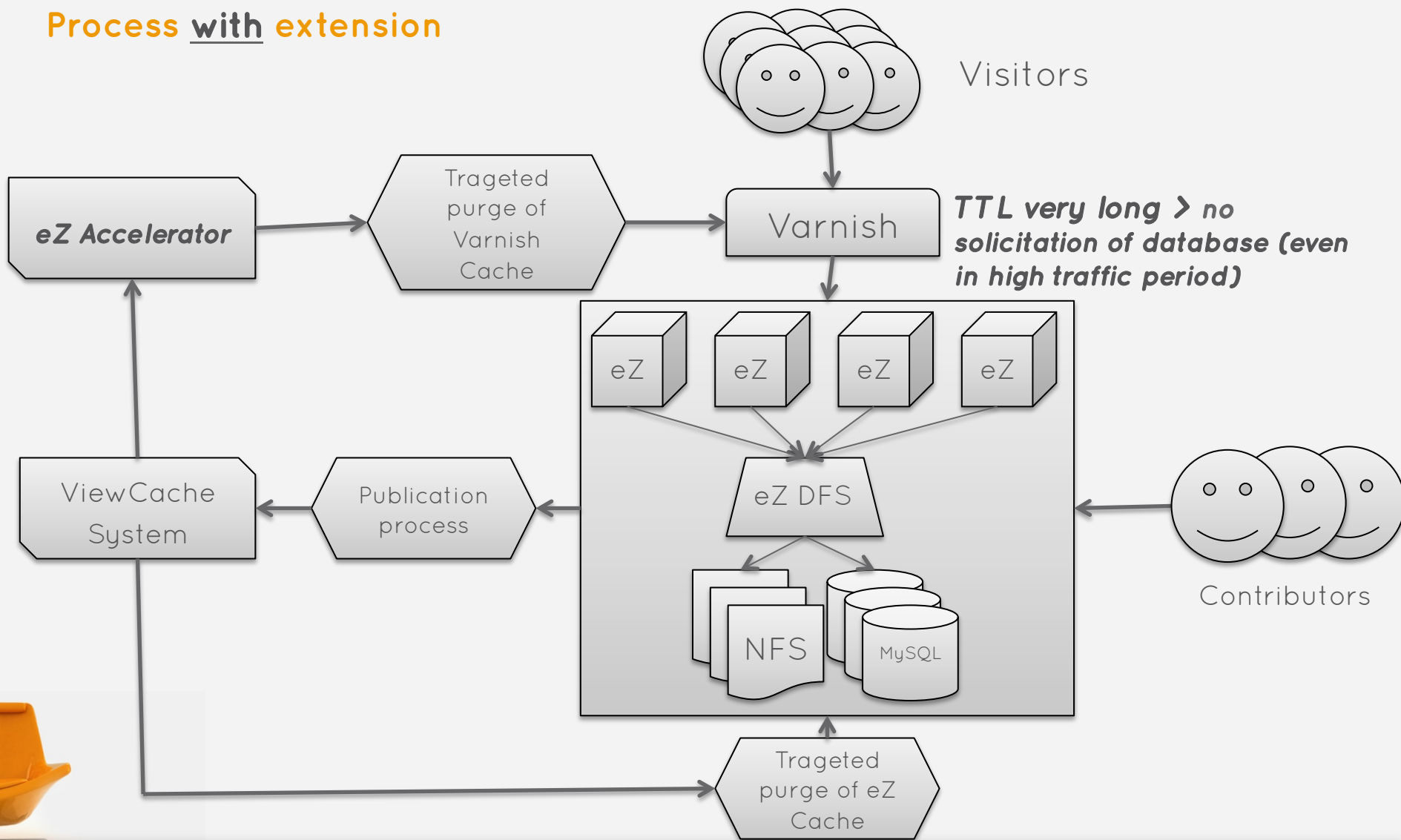
To be resume: without eZ Accelerator

Process without extension



To be resume: avec eZ Accelerator

Process with extension



For simple sites, eZ Accelerator also works with a single server!



eZ Accelerator

Only one eZ Publish instance

- ⓪ Only one web server (Apache)
- ⓪ N SiteAccess
- ⓪ Only one database

eZ Accelerator extension

- ⓪ With only one Varnish

Only on Varnish

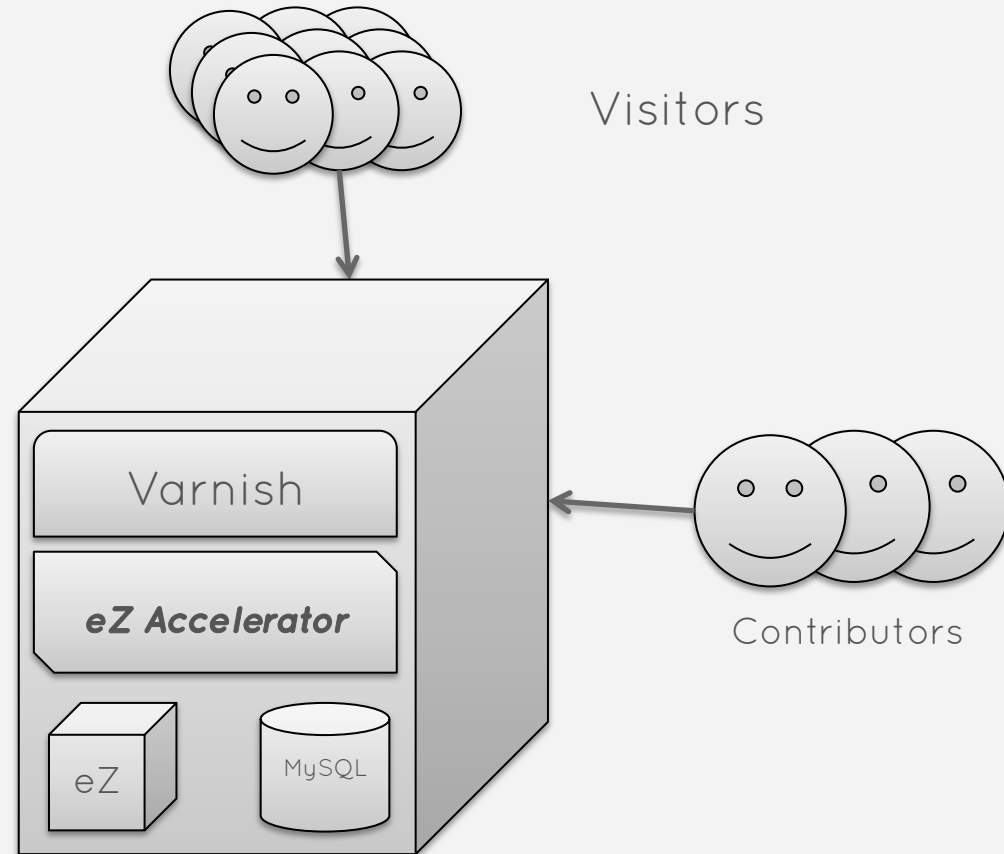
- ⓪ Varnish
- ⓪ Very long TTL

No cluster mode

No NFS

A simple architecture

Very efficient!!!



eZ Accelerator – Advanced usage

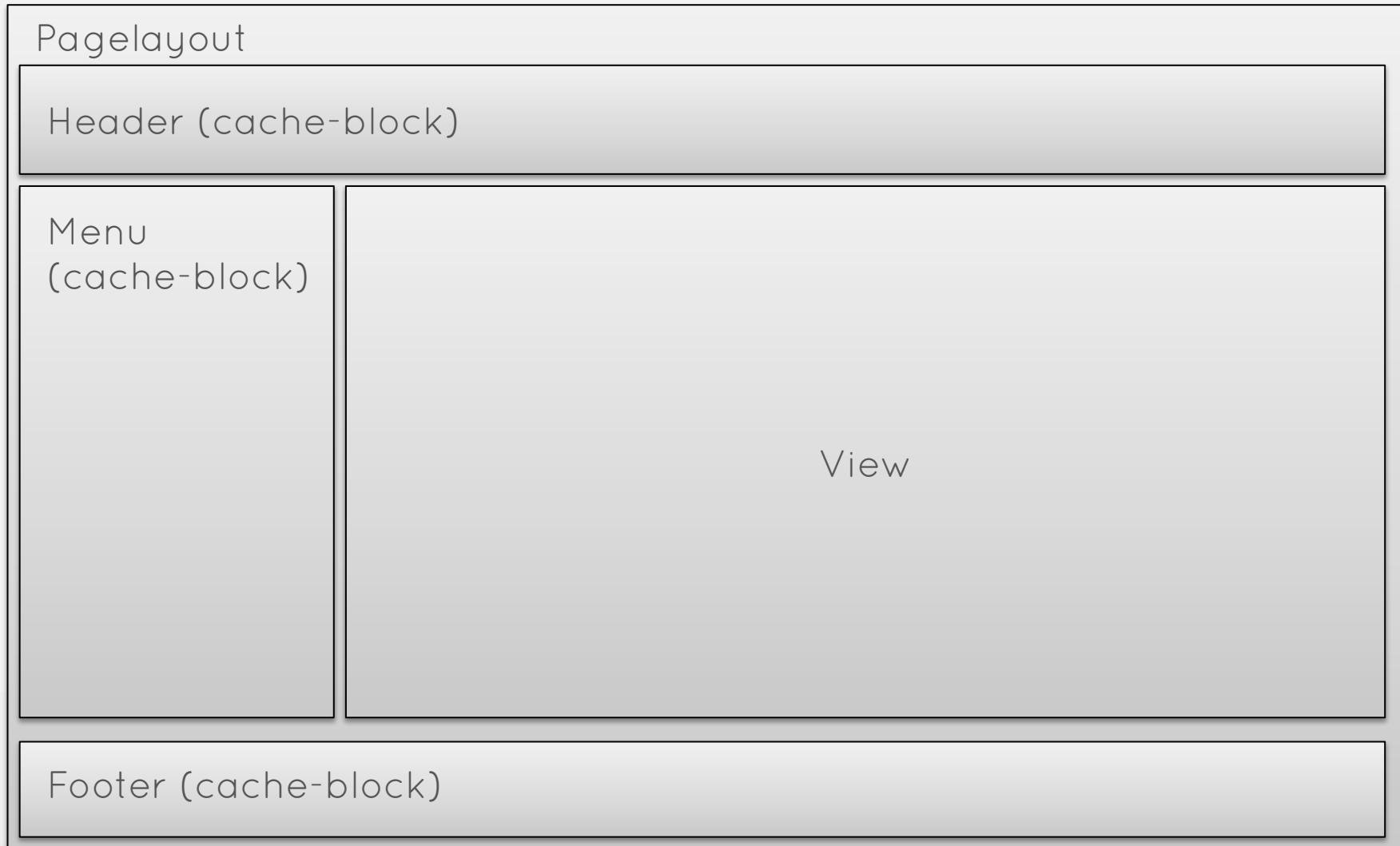
- ① Managing cache-block
- ① Varnish became an application piece of the platform
- ① ESI System
 - ① Deleting cache-block and using benefit of ESI views
- ① Update these caches (old cache-block) with the ezpublish view caching system.

Example:

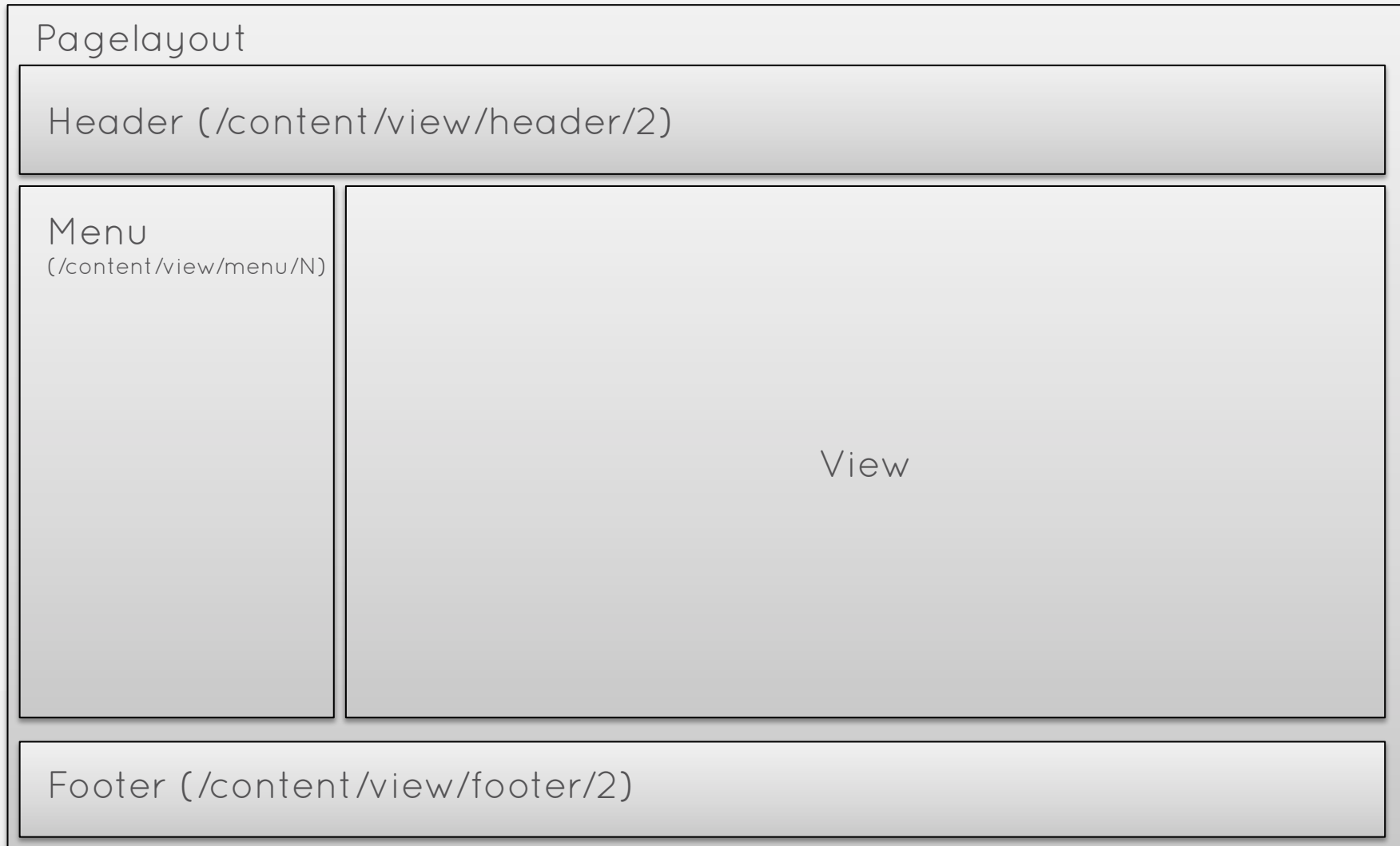
- ① The left menu is unique per node of depth 2
- ① We want:
 - ① Generate the menu once a node of depth 2
 - ① Update this menu directly when a change is made



Pagelayout standard eZ Publish: With cache-block



Pagelayout with eZ Accelerator: Without cache-block



eZ Accelerator in conclusion



eZ Accelerator in conclusion

Objectives Attained

- ⓪ In production on several websites, eZ Accelerator has proved its efficiency on high traffic sites:
 - ⓪ Varnish caches 98% of requests
 - ⓪ Apache handle 2% of actual traffic
 - ⓪ The database is dedicated to the backoffice and to the generation of new content
 - ⓪ We see a significant slowdown of usage of the NFS
- ⓪ Beyond speed, more security: the website is always available due to the shield protection of Varnish (even if have server problems occur)

Certified extension by eZ Systems

- ⓪ In production on Sport24.com, deployed on a daily news site
- ⓪ Easy to install
- ⓪ Available in the eZ Market since mid-October 2011

Since August 2011 Novactive, is a certified Varnish partner

- ⓪ Provides support for the extension eZ Accelerator
- ⓪ May advise in the setup of your Varnish servers





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