

Page Cache

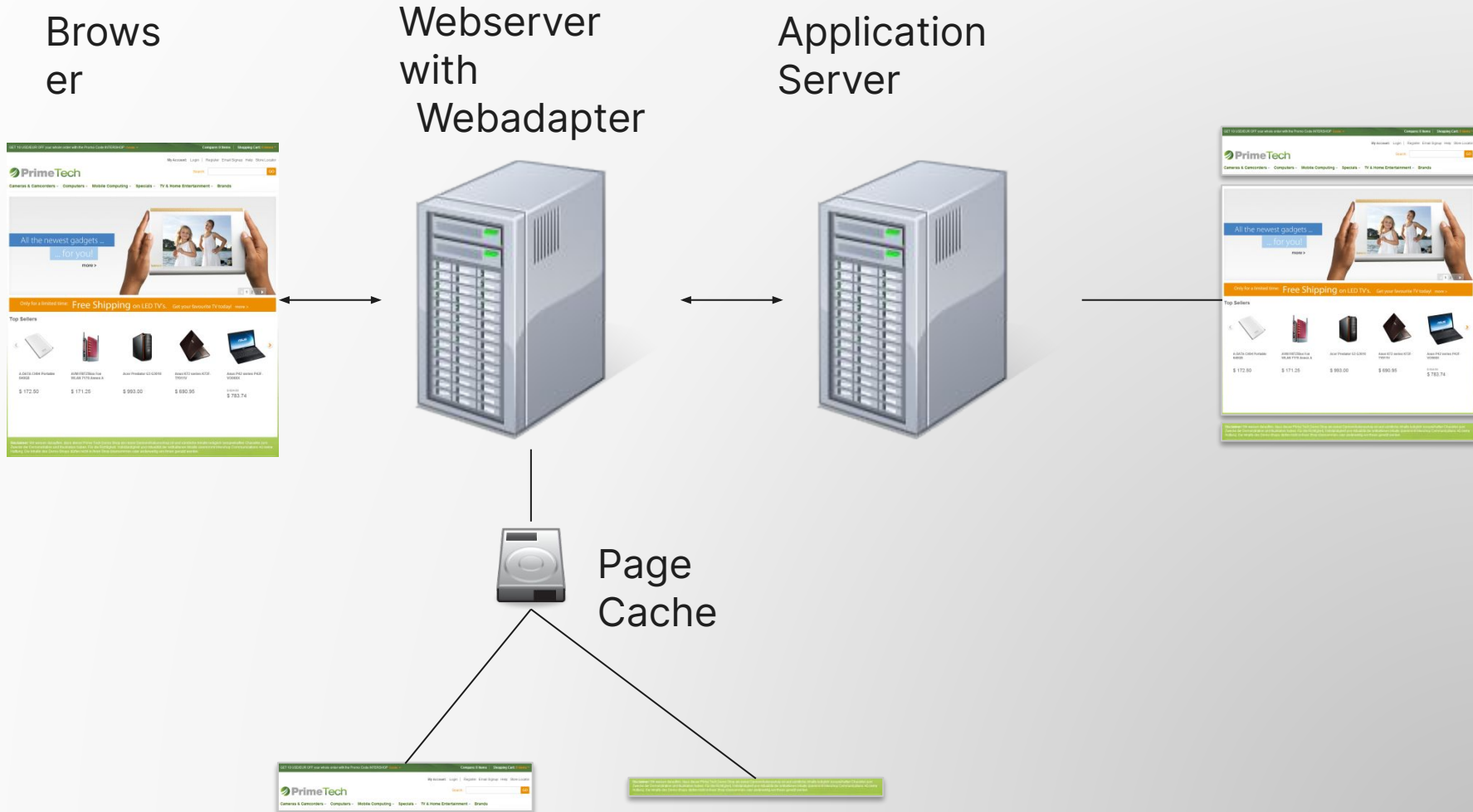
28.09.2012, Sven Blüge

Technical Overview Programming

Why to use page cache

- Rendering pages is expensive
- Reuse rendered **snippets**
- Increase overall performance
- Decrease page load time
- Decrease server load

What is Page Cache



Page Cache Example

GET 10 USD/EUR OFF your whole order with the Promo Code INTERSHOP [Details](#) ▼

Compare: 0 Items | Shopping Cart: 0 Items ▼

My Account: [Login](#) | [Register](#) | [Email Signup](#) | [Help](#) | [Store Locator](#)

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Top Sellers

A-DATA CH94 Portable 640GB	AVM FRITZ!Box Fon WLAN 7170 Annex A	Acer Predator G3 G3610	Asus K72 series K72F-TY011V	Asus P42 series P42F-VO068X
\$ 172.50	\$ 171.25	\$ 993.00	\$ 690.95	\$ 624.99 \$ 783.74

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cached

Not cached

Separately cached

Page Cache Options

- Static content (js, css, images, ...)
 - Global time based
- Dynamic content (result of a pipeline)
 - No cache
 - Cache based on URL
 - Cache personalized based on URL and PGID
 - Number of possible PGIDs decreases hit ratio
- URL and PGID are part of the key used to determine a page from the cache
- PGID: Personalization Group ID, an ID generated by the system which contains for example user group assignments

Page Cache Configuration - SMC

Home | Change Password | Logoff
System Management

Server Name: appserver0 **Host:** 10.0.27.191 **Port:** 10154 **Installation ID:** ES3

[Site Management](#) > PrimeTech-PrimeTechSpecials-Site - Page Cache

General | **Page Cache** | Applications

PrimeTech-PrimeTechSpecials-Site

Maximum age of static content defines the time (in seconds) that static content is cached by the web adapter before it is requested again from the application server. To disable the caching of static files (graphics etc.), set this value to 0.

Enabled page caching allows the web adapter to cache certain pre-compiled storefront pages. This option improves storefront performance.

Explicit keyword processing enables the keyword-based cache invalidation and deletion. Storefront pages marked with specific keywords can selectively be invalidated, and later removed from the cache. This approach is very exact but requires properly prepared storefront templates.

Full text indexing allows to index all cached pages. It is then possible to invalidate all pages that contain given keywords. It does not require specifically prepared storefront templates.

Maximum age of static content:

Page caching:

Explicit keyword processing:

Full text indexing:

Page Cache Invalidation

Insert searchwords and click "Invalidate" to delete cached pages containing these searchwords. You can also invalidate the page cache completely. Click "Prefetch Cache" to manually start the prefetching of the page cache. Note that page cache prefetching can also be started automatically after data replication or defined by web adapter properties.


Invalidate all pages containing the following words as keywords or in the full text:

Multiple searchwords are separated by |

Logon Information

Last Time Logged In:
09/25/12 10:33:12 am

Page Cache Configuration – Back Office



DATA
VIEW

DESIGN
VIEW

PrimeTech Specials ▼

admin admin | [Home](#) | [Help](#) | [Logout](#)

Applications Consumers Marketing Catalogs Content Stores Orders Mass Data Tasks Localization Services Preferences

PrimeTech Specials > Channel Preferences > Page Cache Settings

Page Cache Settings

Maximum age of static content defines the time span (in seconds), static content is cached by the web adapter until it is requested again from the application server. Set it to 0, to disable the caching of static files (graphics etc.)

Enabled page caching allows the web adapter to cache certain pre-compiled storefront pages. This option improves storefront performance.

Enable page cache keyword processing to mark certain storefront pages as cacheable by the web-adapter with different keywords. These pages can later selectively removed from the cache by entering the keywords and clicking 'Invalidate'.

Enable page cache full text indexing to allow full text indexing of all pages. These pages can later selectively removed from the cache by entering the searchwords and clicking 'Invalidate'.

Maximum age of static content:

Page caching:

Page cache keyword processing:

Page cache full text indexing:

Page Cache Invalidation

Click "Invalidate" to fully empty the cache. Enter a set of keywords and click "Invalidate" to selectively delete storefront pages cached by these keywords from the page cache.

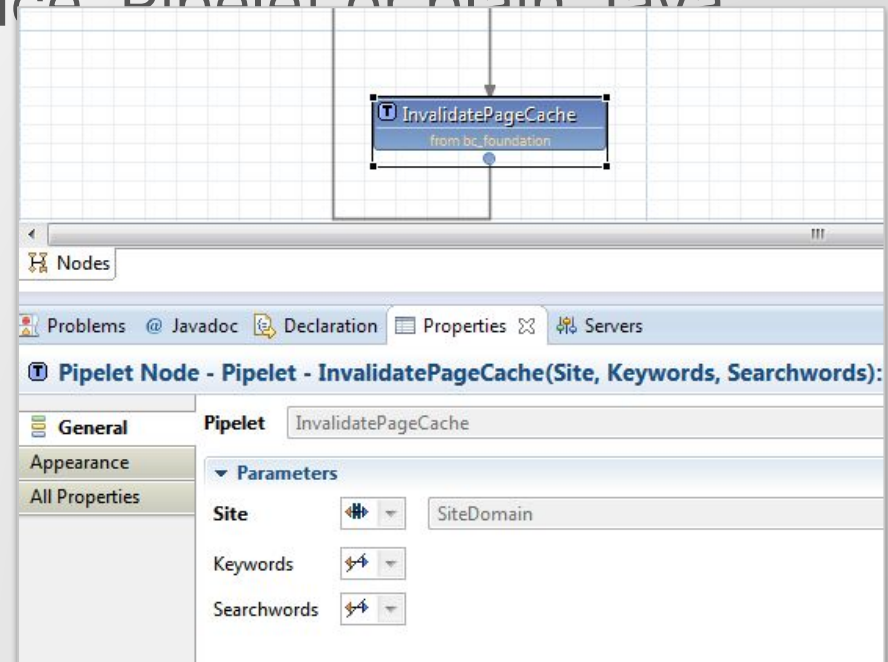
Page cache invalidation keywords/full text:

Multiple keywords are separated by |

Intershop 7 - 7.3.0.0.35 © Intershop Communications, 2005-2012

Page Cache Invalidation

- Full invalidation
- Keyword based invalidation (Selective page cache clearing)
- Can be done using Back Office, Pipelet or plain Java Code



Programming

- How to influence page cache behavior
 - ISML level
 - <isCache>
 - <isInclude>
 - <isContent>
 - <isCacheKey>
 - CMS
 - Remote Slot/Includes
 - Remote Pagelet

Programming – isCache

- Describes the cache behavior of the current snippet
- `Forbidden` is useful to prevent the caching of uncacheable areas. Conflicts result in entries in the error log
- The shortest period will win (this is different from older versions)

```
<iscache
  type      = "( relative | daily | forbidden )"
  [ hour    = "( {Integer} | {ISML expression} )" ]
  [ minute  = "( {Integer} | {ISML expression} )" ]
>
```

Programming – isContent

- Defines if a snippet has to be cached personalized
- Personalized: snippet depends on the PGID

```

<iscontent
  [ compact          = "( true          | false          )" ]
  [ templatemarker = "( true          | false          )" ]
  [ type             = "( {String}      | {ISML expression}" ]
  [ charset         = "{String}" ]
  [ httpstatus      = "( {Integer}   | {ISML expression}" ]
  [ session         = "( true          | false          )" ]
  [ personalized   = "( true         | false         )" ]
  [ encode         = "( on |off | html | xml | wml    )" ]
>

```

Programming – isCacheKey

- Defines a cache key for the current snippet
- Can be a string or an object
- An object will be translated by a provider into a string

```
<isCacheKey  
  (  
    keyword = "( {String} | {ISML expression} )" |  
    object  = "( {String} | {ISML expression} )" |  
  )  
>
```

Programming – isInclude

- Includes an isml template, an url or a directory
- By using `isinclude` you can divide a page into snippets with different caching properties

```

<isinclude
  (
    (
      template = "( {ISML template identifier} | {ISML expression} )"
    )
    |
    (
      url = "( {URL} | {ISML expression} )"
      [
        username = "( {string constant} | {ISML expression} )"
        password = "( {string constant} | {ISML expression} )"
      ]
      [ mode = "( server | automatic )" ]
    )
  [ dictionary = "( {string constant} | {ISML expression} )" ]
)
>

```

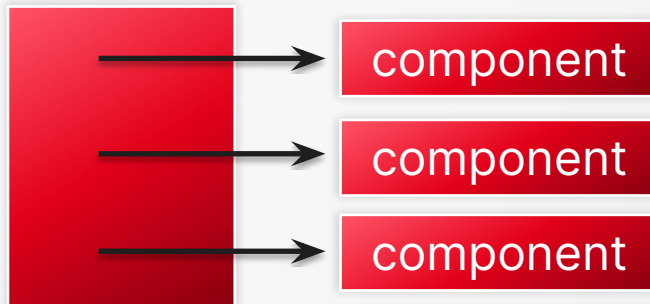
Programming – isInclude

- Remote include vs. Local include



Programming - CMS

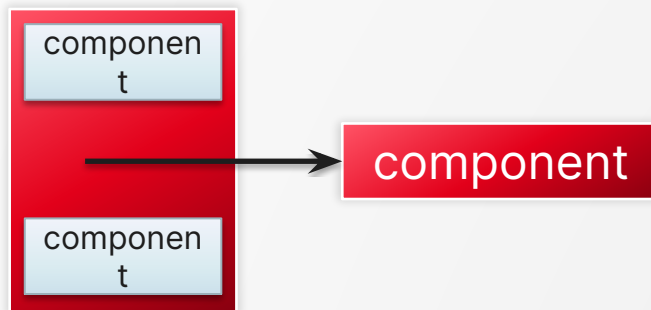
- Slot/Include: remoteInclude="true",



```
<?xml version="1.0" encoding="UTF-8"?>↓
<pagelet:PageletModel xmlns:pagelet="http://www.intershop.de/pagelet/2010" name="include.product.standard.pagelet2">↓
  <componentEntryPointDefinitions name="include" remoteInclude="true">↓
    <callParameterDefinitions name="ProductBO" type="com.intershop.component.product.capi.ProductBO"/>↓
    <callParameterInterfaces referencedName="interfaces.product.pagelet2-ProductGroupInterface"/>↓
    <callParameterInterfaces referencedName="interfaces.product.pagelet2-ProductViewInterface"/>↓
  </componentEntryPointDefinitions>↓
↓
</pagelet:PageletModel>↓
```

Programming - CMS

- Component: remoteInclude=„true“



```
<?xml version="1.0" encoding="UTF-8"?>↓
<pagelet:PageletModel xmlns:pagelet="http://www.intershop.de/pagelet/2010" name="comp.common.loginStatus.pagelet2">↓
  <pageletDefinitions remoteInclude="true" name="comp.common.loginStatus">↓
→   <callParameterInterfaces referencedName="interfaces.common.pagelet2-CommonGroupInterface"/>↓
→   <renderTemplate referencedName="comp/common/LoginStatus"/>↓
  </pageletDefinitions>↓
</pagelet:PageletModel>↓
```

Programming – Hints

- Caching behavior definition happens at isml level
- Enable Page Cache during development time
- Use <iscache> tags very careful and as high in the template hierarchy as possible
- Mark templates which are uncacheable as such
- Do no cache snippets which rely on data which is not present in the url or PGID
- Use remote includes to make as much cacheable as possible
- Minimize the usage of different urls with the same result
(ViewProduct-Start?SKU=foo |
ViewProduct-Start?UUID=XXX)

Programming – Hints

- `share\system\config\cluster\webadapter.properties`
 - Override page cache settings by reloading a page in a browser
 - F5 bypasses the page cache
 - `pagecache.ignoreGetCacheControlHeaders = false`
 - Disable the page cache without using Back Office
 - `pagecache.static.enabled = false`
 - `pagecache.pipeline.enabled = false`

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