

# From OLAMP to enterprise e-commerce. How to build, maintain and not to fail.

PLNOG, 18-19/09/2008  
Kraków, Marcin Mazurek

**Allegro Group**



**Agenda**

Łańcuch pokarmowy.

## QXL Poland Sp. z o.o.

### Serwisy Aukcyjne



### Serwisy Ogłoszeniowe



### Płatności



### Sklepy Internetowe



## Struktura Działu Technicznego

### Allegro

- Dział infrastruktury
  - NOC
  - Helpdesk
  - Zakupy
  - DBA
  - Sieć
  - System
- Dział aplikacji
  - Interfejs
  - Międzynarodowy
  - Projekty
  - Serwis
  - Wydajność

### Grupa Allegro

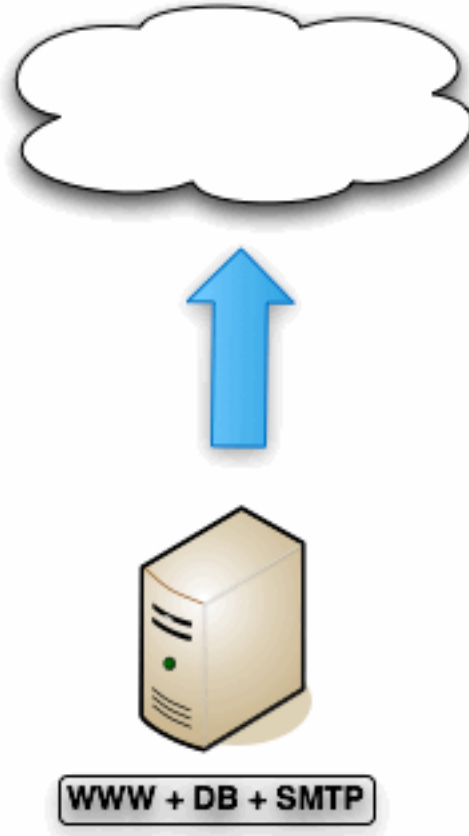
- Zespół serwisów ogłoszeniowych
  - OtoMoto
  - OtoDom
  - AlleWakacje
- Zespół systemów płatności
  - Płatnosci.pl
  - Payu.pl
  - Reks
  - Labfoto
- Projekty
  - PayBACK
  - PayGSM
  - iStore

## Milowe kroki w rozwoju serwisu

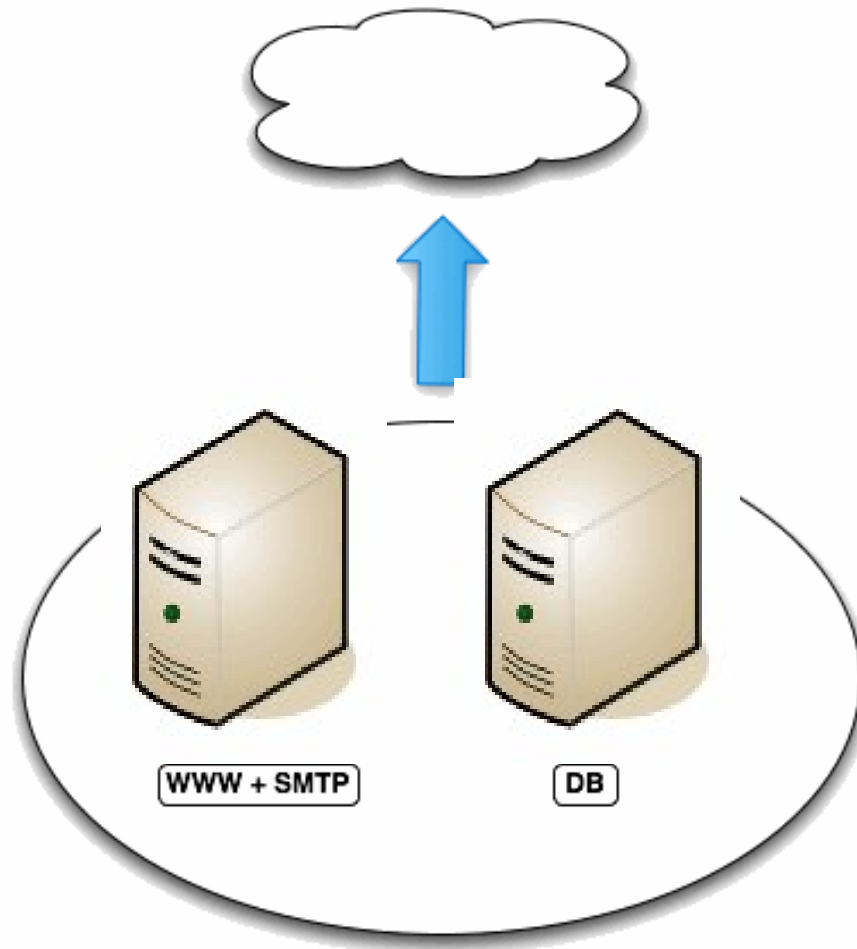
- Grudzień 1999 – start pierwszej wersji serwisu
- Listopad 2002 – wielojęzyczna platforma
- Wrzesień 2007 – nowa baza danych
- Maj 2008 – nowa serwerownia
- Styczeń 2009 – serwerownia DR



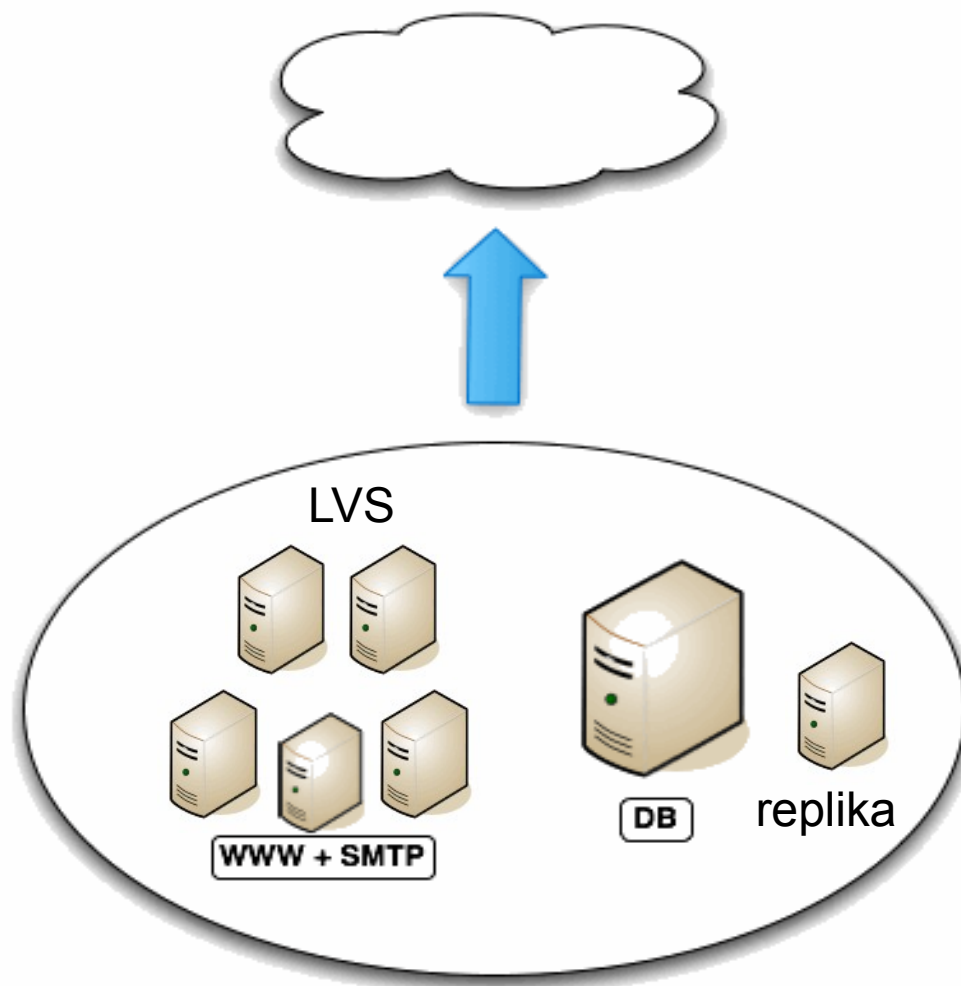
## Rozwój...



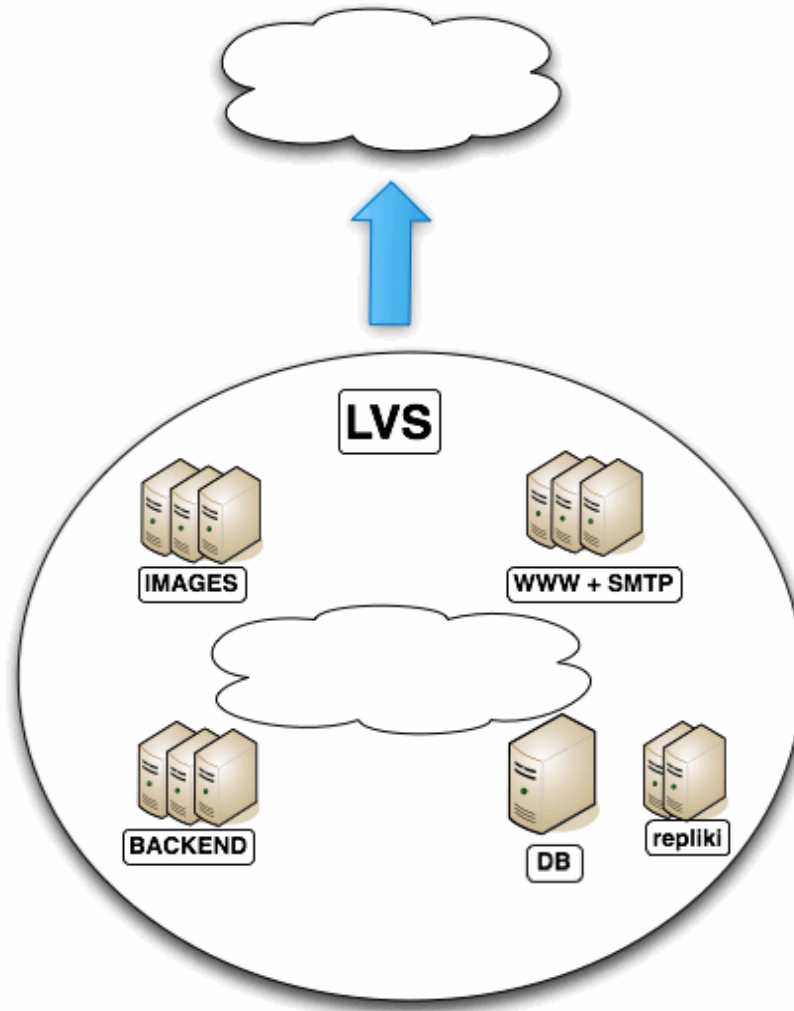
## Rozwój...



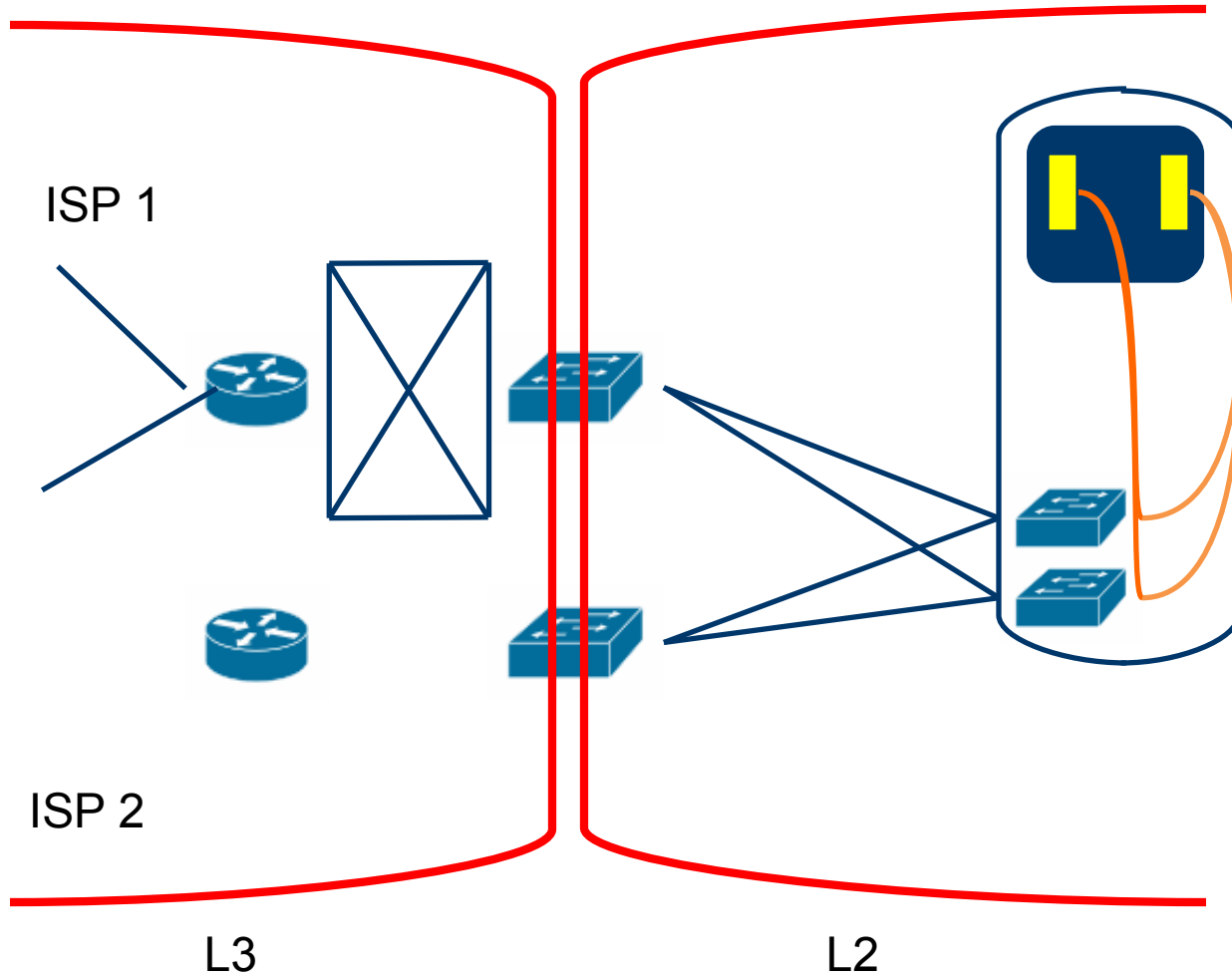
## Rozwój...



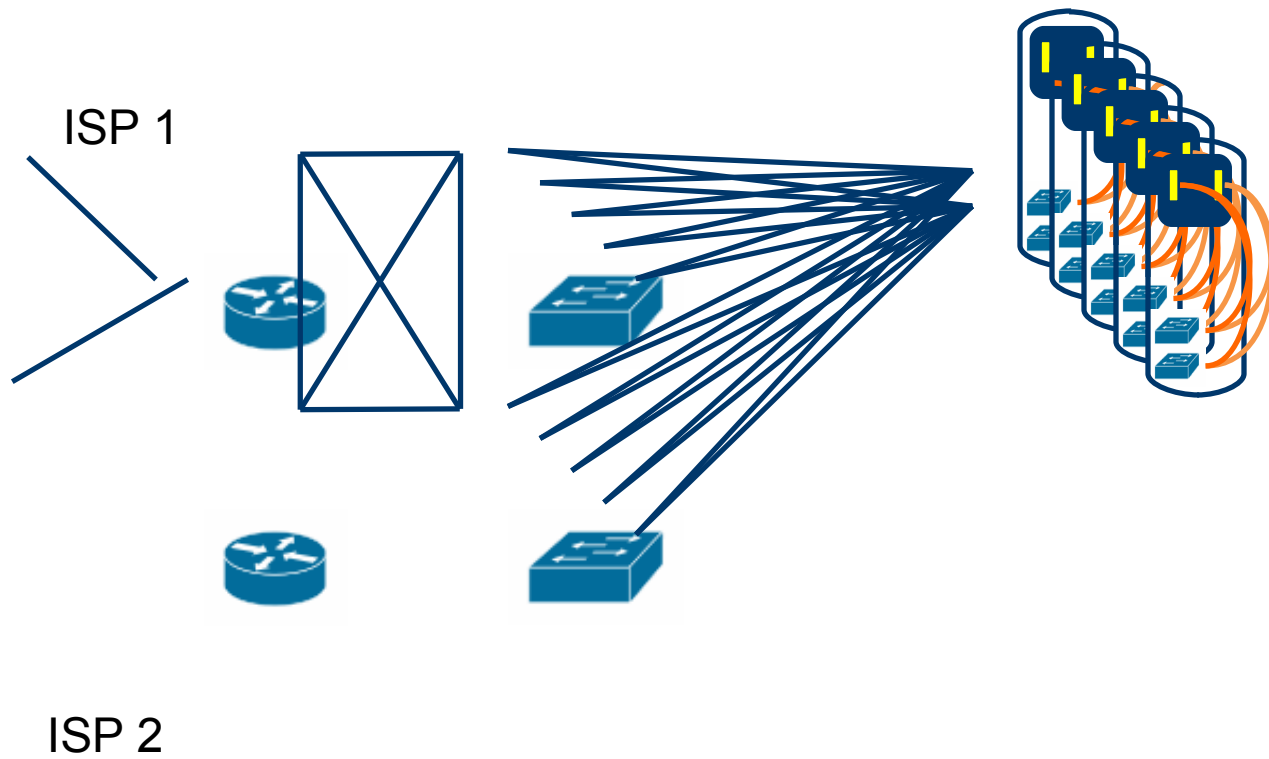
## Rozwój...



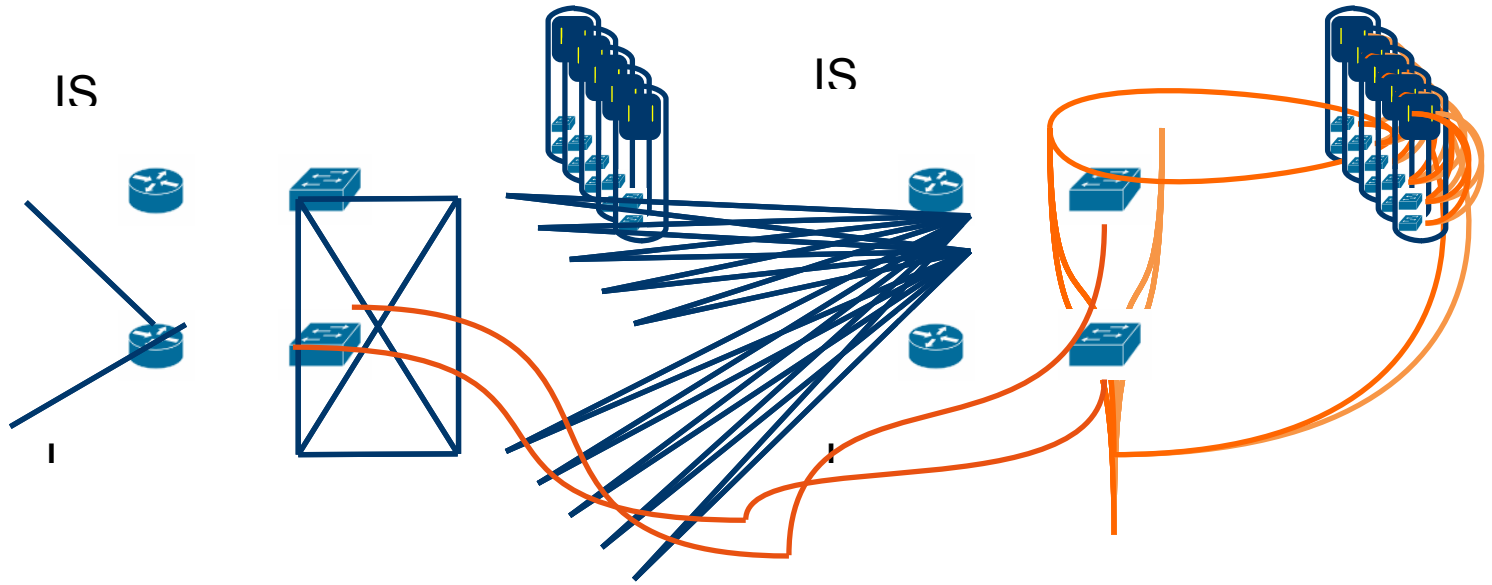
**Sieć**



# Sieć



**Sieć**



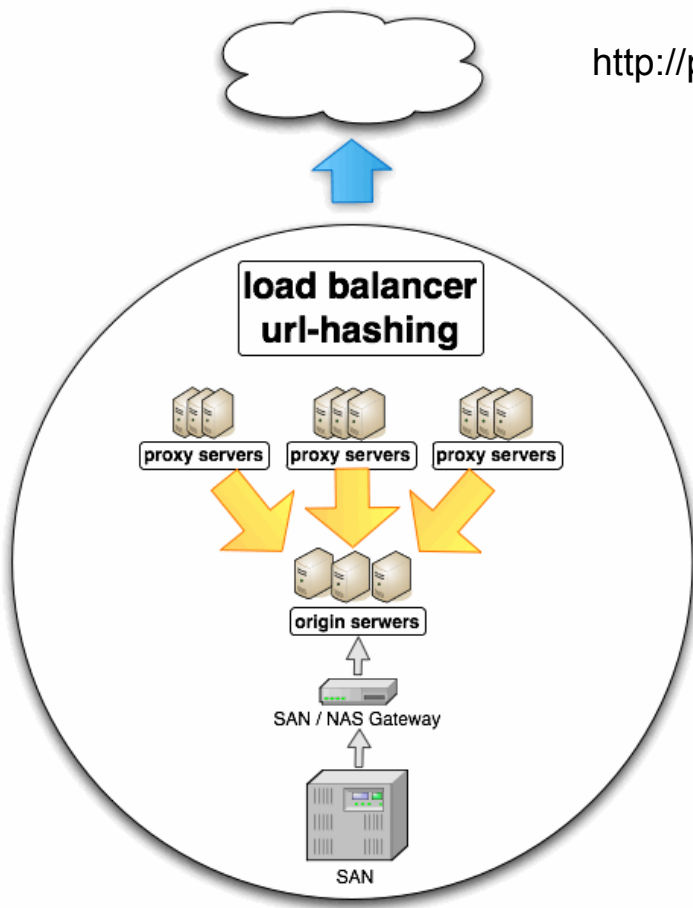
To be done...

## Obrazki

1. Plików tych nie można stracić/zgubić.
2. Bardzo duża ilość plików.
3. Szybkie zmiany -> zmiana obrazka na aukcji -> zamiana w proxy serwerach.
4. Pliki w różnych rozmiarach.
5. Problem z cachowaniem.
6. Problem z systemami plików.
7. Duża liczba requestów http -> IO.



## Obrazki



<http://photos03.allegro.pl/photos/128x96/424/82/80/424828054>

CRC32(URI)

$X \% 3$

Określone (zawsze te same) serwery cache.

## Rozwój... i problemy ...

1. Zarządzanie dużą farmą serwerów.
2. Szybki deployment.
3. Brak przemyślanej struktury sieciowej.
4. Rozwiązania typu “gaszenie pożaru”.
5. Dużo pojedynczych punktów awarii.
6. Duży ruch – za który zapłacono.
7. Problemy organizacyjne.



Technologie

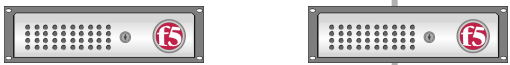
- 1. OpenSource
- 2. Rozwiązania komercyjne

CentOS

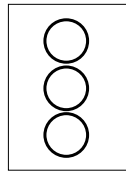
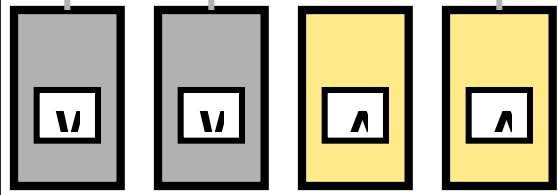


*From OLAMP to enterprise e-commerce.*

## Content switching – F5



**BIG-IP**



**Database System**

### SPEED

- SSL Acceleration
- Quality of Service
- Connection Pooling
- Intelligent Compression
- L7 Rate Shaping
- Content Spooling/Buffering
- TCP Optimization
- Content Transformation

### SECURITY

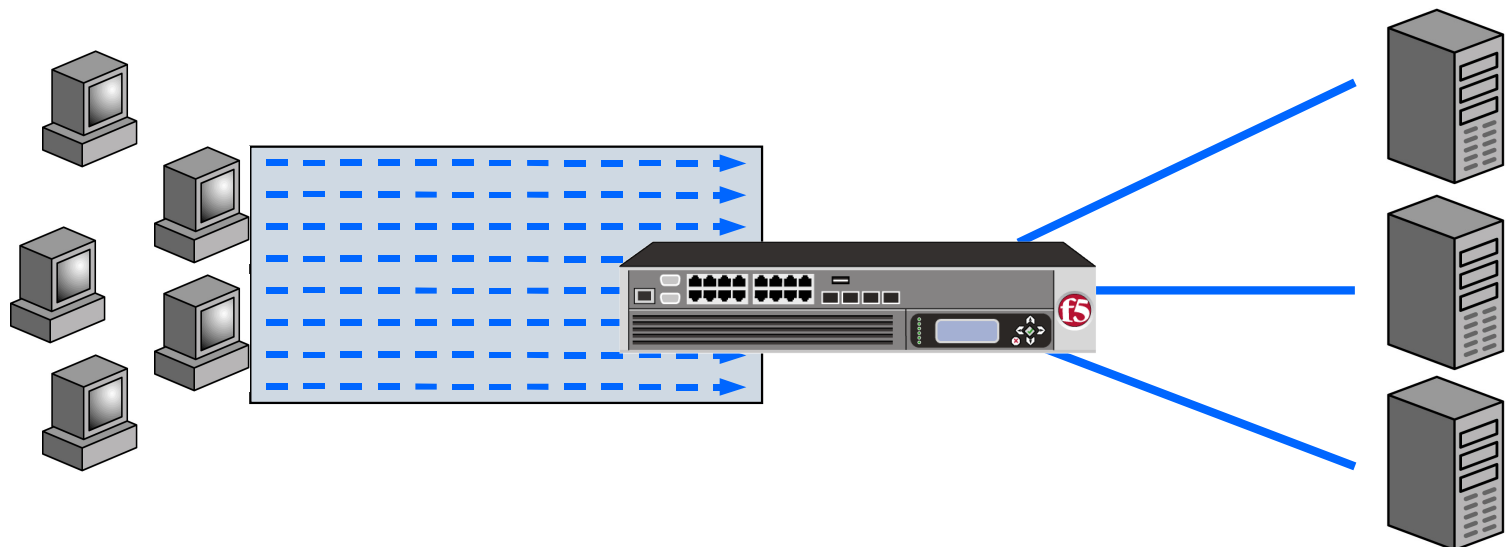
- DoS and SYN Flood Protection
- Network Address/Port Translation
- Application Attack Filtering
- Certificate Management
- Resource Cloaking
- Advanced Client Authentication
- Firewall - Packet Filtering
- Selective Content Encryption
- Cookie Encryption

### AVAILABILITY

- Comprehensive Load Balancing
- Advanced Application Switching
- Customized Health Monitoring
- Intelligent Network Address Translation
- Intelligent Port Mirroring
- Universal Persistence

## OneConnect™ – Connection Pooling

- Increase server capacity by 30%
  - Aggregates massive number of client requests into fewer server side connections
- Transformations form HTTP 1.0 to 1.1 for Server Connection Consolidation
- Maintains Intelligent load balancing to dedicated content servers



## F5 - iRule

```
rule redirect_error_code {
  when HTTP_REQUEST {
    set my_uri [HTTP::uri]
  }
  when HTTP_RESPONSE {
    if { [HTTP::status] == 500 } {
      HTTP::redirect
      http://192.168.33.131$my_uri
    }
  }
}
```

```
when HTTP_REQUEST {
  log local0. "VSERVER=[IP::local_addr]
  IP=[IP::client_addr] HOST=[HTTP::host] URI=[HTTP::uri]"

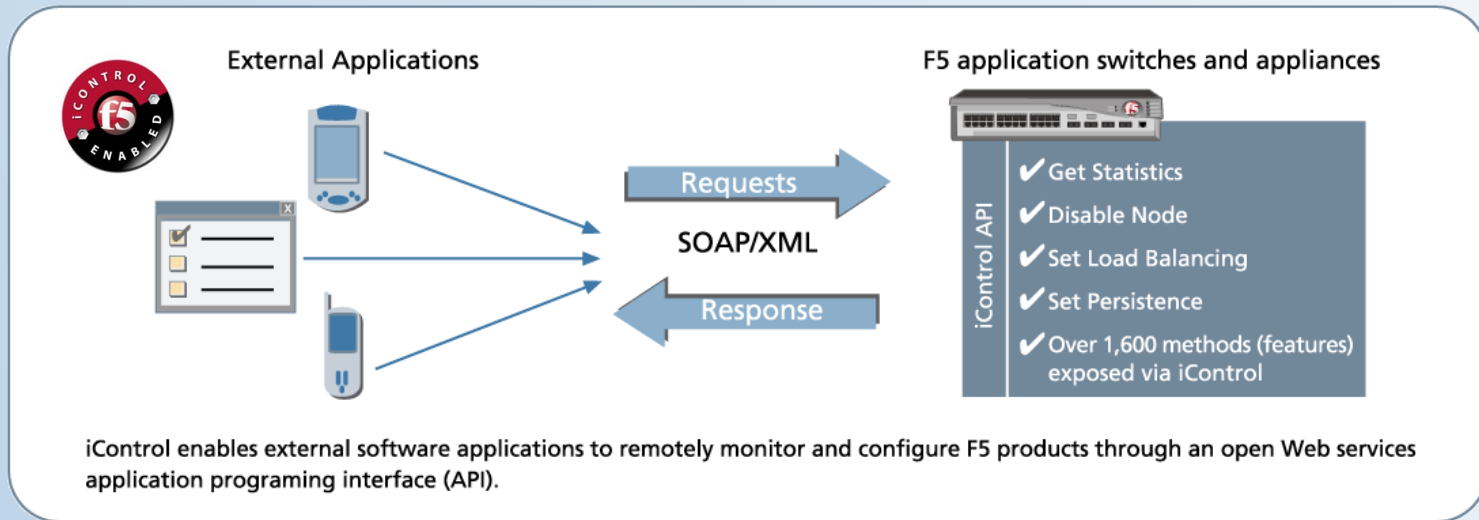
  HTTP::header insert "RealIP" [IP::client_addr]

  if {[HTTP::uri] contains "/original/"} {
    pool original
  }
}
```

```
rule protect_content {
  when HTTP_RESPONSE_DATA {
    set payload [HTTP::payload [HTTP::payload length]]
    #
    # Find and replace SSN numbers.
    #
    regsub -all {\d{3}-\d{2}-\d{4}} $payload "xxx-xx-xxxx"
    new_response
    #
    # Replace only if necessary.
    #

    if {$new_response != 0} {
      HTTP::payload replace 0 [HTTP::payload length]
    }
  }
}
```

## iControl Eases Application Integration



### Key Components

- XML/SOAP interface
- Downloadable SDK
- Technology partnerships
- DevCentral resource centre and community

### Benefits

- Open, standards based integration
- Simplified development
- Proven integration
- Sample code, documentation, discussion forums

## F5 - iControl - SDK

The image shows two overlapping browser windows. The top window is the DevCentral Wiki page for LocalLB::Pool, and the bottom window is the iControl SDK v9.4.0 documentation page for the Pool interface.

**DevCentral Wiki: LocalLB::Pool**

URL: [http://devcentral.f5.com/wiki/default.aspx/iControl/LocalLB\\_Pool.html](http://devcentral.f5.com/wiki/default.aspx/iControl/LocalLB_Pool.html)

DevCentral navigation: Docs, Blogs, Forums, Samples, Media, Labs, Resources

**LocalLB::Pool**

terface to create pools, add members to a ng mode for a pool.

	Introduced
	BIG-IP_v9.0
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	BIG-IP_v9.0
	BIG-IP_v9.0

**iControl SDK v9.4.0**

Interface Pool  
Version: 9.0  
Introduced: BIG-IP\_v9.0

The Pool interface enables you to work with attributes, and statistics for pools. You can also use this interface to create pools, add members to a pool, delete members from a pool, find out the load balancing mode for a pool, and set the load balancing mode for a pool.

**Methods**

Method	Description	Introduced
<a href="#">add_member</a>	Adds members to the specified pools.	BIG-IP_v9.0
<a href="#">create</a>	Creates a new pool.	BIG-IP_v9.0
<a href="#">delete_all_pools</a>	Deletes all pools.	BIG-IP_v9.0
<a href="#">delete_persistence_record</a>	Deletes the persistence records based on the specified persistent modes for the specified pools.	BIG-IP_v9.0
<a href="#">delete_pool</a>	Deletes the specified pools.	BIG-IP_v9.0
<a href="#">get_action_on_service_down</a>	Gets the action to take when the node goes down for the specified pools.	BIG-IP_v9.0
<a href="#">get_active_member_count</a>	Gets the current active member counts for the specified pools.	BIG-IP_v9.0
<a href="#">get_aggregate_dynamic_ratio</a>	Gets the aggregate dynamic ratio values from all the members of the pools.	BIG-IP_v9.0
<a href="#">get_all_statistics</a>	Gets the statistics for all the pools.	BIG-IP_v9.0
<a href="#">get_allow_nat_state</a>	Gets the states indicating whether NATs are allowed for the specified pools.	BIG-IP_v9.0
<a href="#">get_allow_snat_state</a>	Gets the states indicating whether SNATs are allowed for the specified pools.	BIG-IP_v9.0
<a href="#">get_client_ip_tos</a>	Gets the IP ToS values for client traffic for the specified pools.	BIG-IP_v9.0
<a href="#">get_client_link_qos</a>	Gets the link QoS values for client traffic for the specified pools.	BIG-IP_v9.0
<a href="#">get_gateway_failsafe_unit_id</a>	Gets the gateway failsafe unit IDs for the specified pools.	BIG-IP_v9.0
<a href="#">get_lb_method</a>	Gets the load balancing methods for the specified pools.	BIG-IP_v9.0
<a href="#">get_list</a>	Gets a list of all pools.	BIG-IP_v9.0
<a href="#">get_member</a>	Gets a list of pool members.	BIG-IP_v9.0
<a href="#">get_minimum_active_member</a>	Gets the minimum active member counts for the specified pools.	BIG-IP_v9.0
<a href="#">get_minimum_up_member</a>	Gets the minimum member counts that are required to be UP for the specified pools.	BIG-IP_v9.0
<a href="#">get_minimum_up_member_action</a>	Gets the actions to be taken if the minimum number of members required to be UP for the specified pools is not met.	BIG-IP_v9.0

Control Panel

- Edit
- Print
- Recent Changes
- Lost and Found
- Find References
- Highlight Changes
- Subscriptions
- List all versions

Navigation

Spotlight Wikis

DevCentral

## Narzędzia

### Monitoring:

- cacti
- nagios
- collectd
- cflowd
- SolarWinds
- Gomez

### Zarządzanie:

- Sauron <http://sauron.jyu.fi/>
- Altiris
- rancid

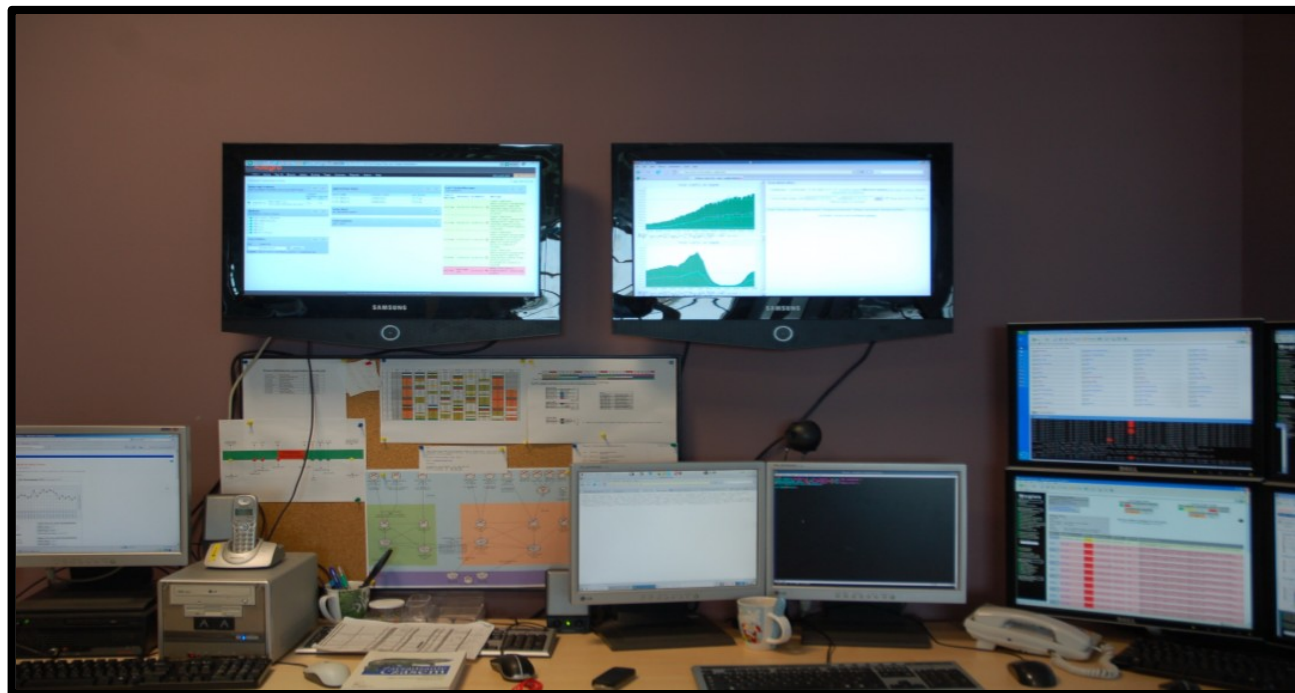
### Tikety

- Request Tracker
- OTRS



## NOC

- pierwsza linia obrony
- proaktywny monitoring
- dostępni 24/7/365



## Monitoring - Gomez



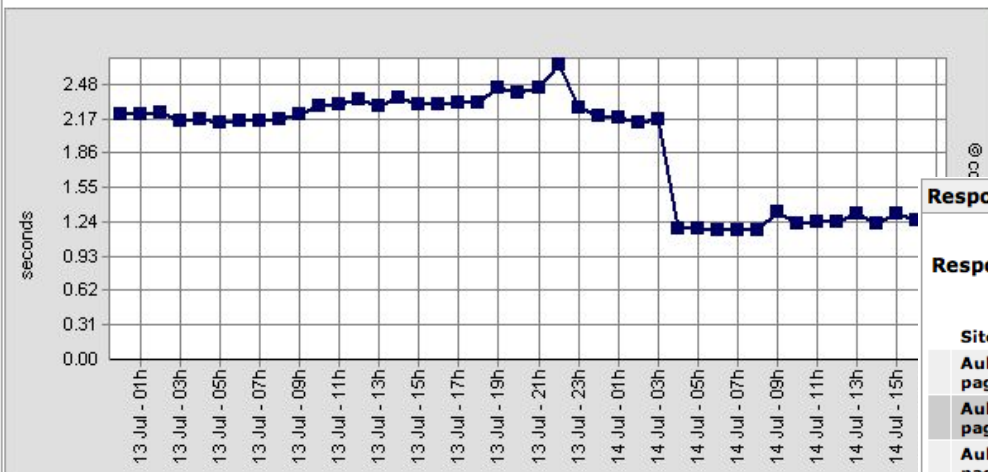
- “What’s Your uptime/downtime...”?
- Jak wyglądamy na tle naszych konkurentów?
- Gdzie możemy poprawić naszą wydajność?
- Proaktywne monitorowanie działalności serwisu.
- Reaktywne monitorowanie, także wielokrokowe.

# Monitoring - Gomez



Selected Test: otomoto.pl-20080711-search item (transaction)

[View nodes shown in chart](#)



otomoto.pl-20080711-search item

### Response Time

Average: 1.922 seconds  
 Maximum: 16.369 seconds  
 Minimum: 0.678 seconds

### Historical - Average Response

Last 7 days: 2.069 seconds  
 Last 14 days: 2.069 seconds  
 Last 31 days: 2.070 seconds

### Test Errors and Availability

Valid Tests: 1940  
 Failed Tests: 0  
 Eliminated Tests: 0  
 Total Tests: 1940  
 Test Success Rate: 100.00%

### Page Errors and Availability

Valid Pages: 1940  
 Failed Pages: 0  
 Total Pages: 1940  
 Page Success Rate: 100.00%

### Response Time and Success Rate

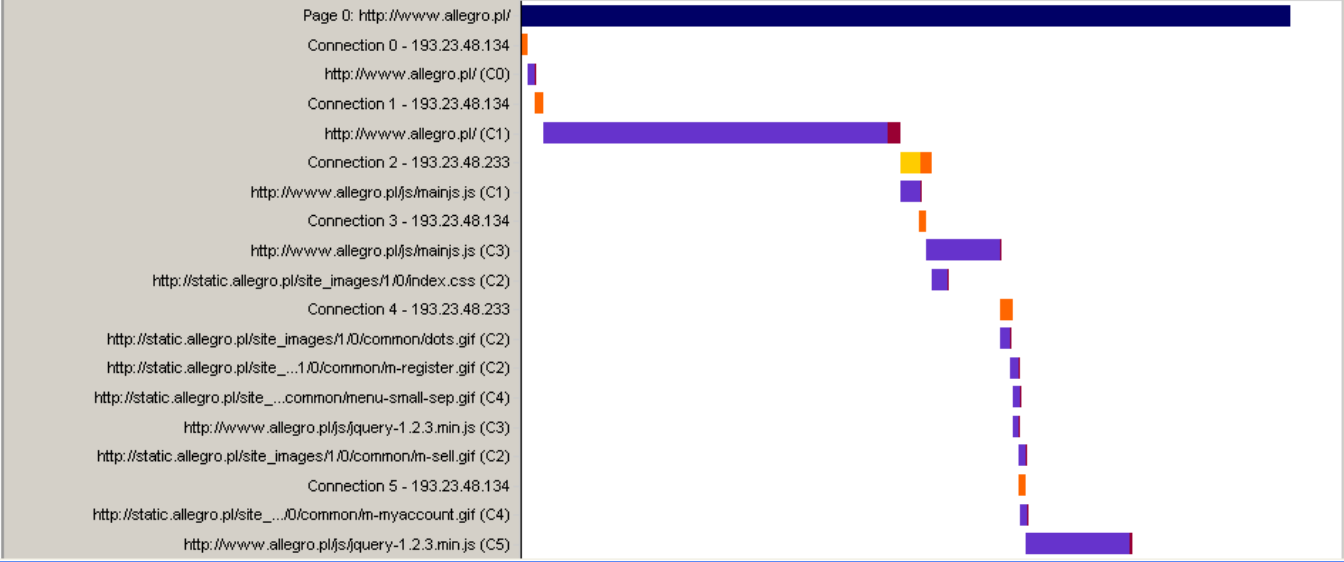
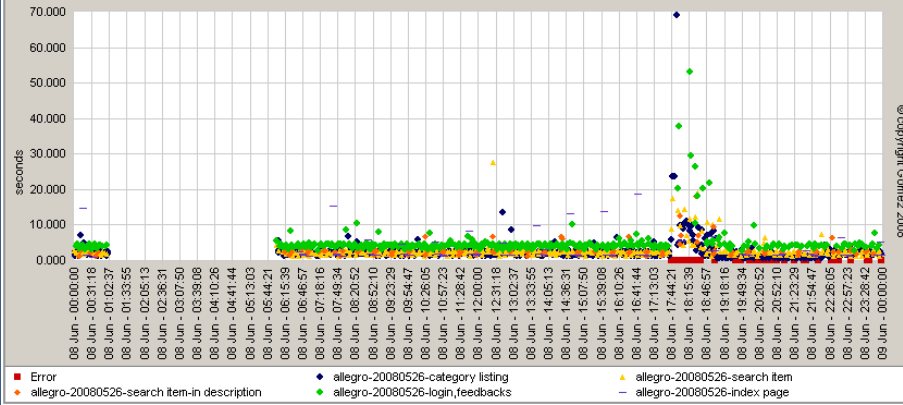
Response Time Rating ★★

Success Rate Rating ★★

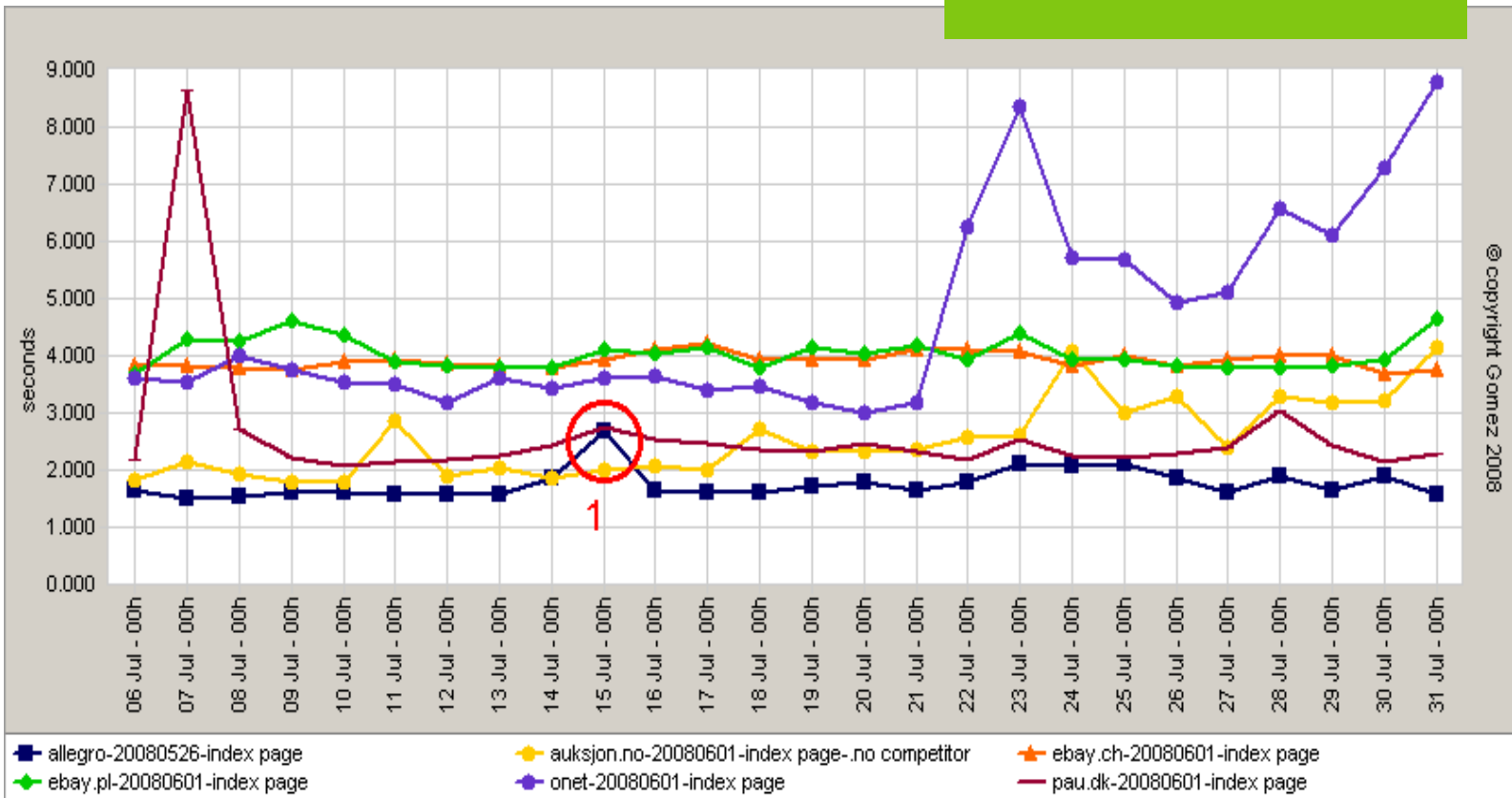
Site	Response Time (sec)
Auktro.bg-20080803-index page	1.15
Auktro.sk-20080803-index page	1.20
Auktro.ro-20080803-index page	1.26
Auktro.ua-20080803-index page	1.39
Auktro.cz-20080803-index page	1.93
Teszvesz.hu-20080803-index page	1.93
<b>allegro-20080526-index page</b>	<b>2.17</b>
molotok.ru-20080601-index page	2.28
• auksjon.no-20080601-index page-.no competitor	2.51
• pau.dk-20080601-index page	2.66
• ebay.ch-20080601-index page	3.84
• ebay.pl-20080601-index page	3.95
<b>Benchmark Average</b>	<b>4.36</b>
• onet-20080601-index page	9.03

Site	Success Rate (%)
<b>allegro-20080526-index page</b>	<b>100.0</b>
Auktro.ro-20080803-index page	100.0
Auktro.sk-20080803-index page	100.0
Auktro.ua-20080803-index page	100.0
• auksjon.no-20080601-index page-.no competitor	100.0
Auktro.bg-20080803-index page	100.0
Auktro.cz-20080803-index page	100.0
• ebay.ch-20080601-index page	100.0
• ebay.pl-20080601-index page	100.0
molotok.ru-20080601-index page	100.0
Teszvesz.hu-20080803-index page	100.0
<b>Benchmark Average</b>	<b>98.3</b>
• pau.dk-20080601-index page	96.5
• onet-20080601-index page	95.1

# Monitoring - Gomez



## Monitoring - Gomez



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## Plany na przyszłość

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"Something tells me we really haven't begun to live yet."

**Koniec...**

**PYTANIA?**