



# Wotif.com Glassfish Case Study

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# Wotif.com Case Study

## Key facts and figures

- Australia's No 1 Hotel Booking Site
- Rapidly Growing elsewhere
- > 2.75 million user sessions/month
- > 10,000 concurrent users
- > 2m bookings per year
- > 10,000 hotels
- Recently acquired lastminute.com.au, travel.com.au and Asia Web Direct

Source: <http://blogs.sun.com/stories/entry/wotif>

<http://www.networksasia.net/ena/article/articleDetail.jsp?id=393040>

[http://info.wotif.com/pdf/Wotif.com\\_Facts\\_Figures.pdf](http://info.wotif.com/pdf/Wotif.com_Facts_Figures.pdf)

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## Screen shots – Home Page

**wotif.com**  
28 days of great deals!

Home About Us Contact Us Investors Suppliers

**GREAT RATES** for a broad range of hotels, motels, apartments, resorts and bed & breakfasts in over 35 countries. Book last-minute accommodation or up to 28 days in advance.

**Wot's On?**

- [FINA World Swimming Championships Melbourne](#)
- [Adelaide Fringe](#)
- [Autumn Bed & Breakfast deals](#)
- [INXS Accommodation](#)

**Gift voucher?**

**Search Accommodation**

- Country
  - Australia
  - Austria
  - Belgium
  - Brazil
- Destination (browse all)
  - Sydney
  - Sydney CBD
  - Melbourne
  - Melbourne CBD
  - Brisbane
  - Gold Coast
  - Sunshine Coast
  - Adelaide
  - Perth
  - Canberra
  - Darwin
  - Hobart
  - NSW
- All Days
  Weekends (Fri-Sun)

Search

**Wot's Hot?**

- Melbourne **Easystay The Bayside Motel** AU\$75 economy room, great location on vibrant Fitzroy St, room incl. tv, fridge, tea/coffee & ensuite!
- Adelaide **Oaks Embassy** AU\$182 deluxe 1 bedroom, incl. use of the pool, gym, spa, sauna & steam room, spacious apartment!
- Perth **Hyatt Regency Perth** AU\$235 Hyatt Guest Room, incl. newspaper & use of the Hotels Gym and Sauna!
- Newcastle **Quest Newcastle** AU\$160 1 bedroom apartment, incl. a bottle of Hunter wine on arrival and parking!
- Melbourne **Punt Hill South Yarra - Punt Road** AU\$115 one bedroom, spacious apartment with fully equipped kitchen, tv and dvd player!
- Launceston and Tamar Valley (TAS) **Country Comfort Coach House** AU\$99 queen/twin special, incl. unlimited broadband and Astar, don't miss out!
- Sunshine Coast **Australis Noosa Lakes** AU\$99 one bedroom 3 nights, incl. parking, enjoy the use of 3 lagoon style pools or relax on your balcony!

Newsletter subscribe or unsubscribe

**Advanced Search Options**  
Get more specific results by selecting to display only properties matching these criteria:

Property type:  Room type:  Min. rating:  Max. price:  per night Hotel name:

Restaurant  Fitness Centre  Broadband Internet  
 Kitchen/ette  Balcony  Satellite/cable TV  
 Pool  24hr front desk  In-room Spa

Advanced Search

Terms & Conditions | Privacy | Security | Feedback | Help

VISA MasterCard

Source: <http://wotif.com>

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## Screen shots – Search Results

The screenshot shows the Wotif.com search results for Sydney. The page includes a navigation bar with 'Home', 'About Us', and 'Contact Us' links, and a search bar with various filters. The search results are displayed in a table format, showing the name of the hotel, its rating, and the price per room for each day from Tuesday to Monday. The table is titled 'Sydney' and includes a 'Currency Converter' link. The search criteria are: Property type: All types, Room type: All rooms, Min. rating: All, Max. price: \$ per night, Hotel name: (empty). The search results are sorted by 'Full Rate' and show 10 hotels. The prices are in AU\$ and are tax-inclusive. The table is titled 'Sydney' and includes a 'Currency Converter' link. The search results are sorted by 'Full Rate' and show 10 hotels. The prices are in AU\$ and are tax-inclusive.

Sydney		Top	Full Rate	Tue 20 Mar	Wed 21 Mar	Thu 22 Mar	Fri 23 Mar	Sat 24 Mar	Sun 25 Mar	Mon 26 Mar	Tue 27 Mar	Wed 28 Mar	Thu 29 Mar	Fri 30 Mar	Sat 31 Mar	Sun 1 Apr	Mon 2 Apr
All rates are TAX inclusive and per Room listed in AU\$																	
Amora Hotel Jamison	★★★★★	Next	\$536	SOLD	\$350	\$300	\$220	\$250	\$220	\$300	\$300	\$300	\$300	\$210	\$220	\$220	\$250
BLUE Sydney - A Taj Hotel	★★★★★	Next	\$520	\$420	\$300	\$300	\$280	\$280	\$220	\$420	SOLD	\$280	\$280	\$280	\$280	\$250	\$220
Establishment Hotel	★★★★★	Next	\$415	SOLD	SOLD	SOLD	SOLD	SOLD	\$290	\$320	SOLD	SOLD	\$350	SOLD	SOLD	\$290	\$330
Four Seasons Hotel Sydney	★★★★★	Next	\$440	\$450	\$450	SOLD	\$300	SOLD	\$300	\$450	\$450	\$450	\$450	\$300	\$300	\$260	\$350
Fraser Suites Sydney	★★★★★	Next	\$420	\$266	\$266	\$266	\$294	\$294	\$252	\$266	\$266	\$266	\$266	\$294	\$294	\$252	\$266
Hilton Sydney	★★★★★	Next	\$530	\$430	\$430	\$345	\$295	\$295	\$295	\$325	\$325	\$325	\$325	\$345	\$345	\$245	\$395
InterContinental Sydney	★★★★★	Next	\$465	SOLD	\$485	\$440	SOLD	\$440	\$440	\$485	\$410	\$410	\$410	\$485	\$410	\$320	\$320
Kirketon Boutique Hotel	★★★★★	Next	\$220	SOLD	SOLD	SOLD	SOLD	SOLD	\$145	\$145	SOLD	SOLD	SOLD	SOLD	SOLD	SOLD	SOLD
Marriott Sydney	★★★★★	Next	\$520	SOLD	\$385	\$330	\$275	\$275	\$245	\$245	\$330	\$295	\$229	\$229	\$229	\$229	\$229

- + 15 more screenfuls for a total of 1.5MB
- Support many of these per second

Source: <http://www.wotif.com/search/Simple?refine=simpleSearch&country=1&region=1&viewType=all>



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## Technology Platform

- Sun AMD64 Servers
- RHEL5
- 64bit Java technology – 5
- GlassFish™ 9 UR1
- Open Message Queue 4.0
- Oracle 10G & MySQL 5
- Full stack JEE 5
- Also lots of open source, including spring, ehcache



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## Why we chose Glassfish?

- Needed to move off Orion
- Wanted JEE 5, open source or cheap
- Wanted commercial support
- Path to the future
- Considered JBoss, Geronimo, non-JEE like Tomcat and Resin.
- Evaluated by doing a small test port of the busiest pages and running it in our performance and stress test environment
- Worked Great!



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## Porting Experience

- Started with 8 spikes including performance, stability and security
- 5 devs took one month
- JEE 1.3 > JEE 5 (Servlet 2.5, JSP 2.1, EJB 3)
- Required extensive regression testing
- Dev issues:
  - Bugs
  - Memory use
  - Startup and deploy times
- Upgraded Dev machines to 3GB and some to dual core
- Went live January 2007



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## Bugs Raised

- We have raised around 10 bugs on Glassfish. Most of these are now closed.
- There is a PermGen memory leak on redeploy. Developers have to restart after about 10 deploys.
- The guide to configuring domain.xml is very patchy. It is a lot of trial and error to tune your app. We need a tuning guide. I have already suggested this to Jeanfrancois Arcand.
- The QuickStart feature is **very** buggy. We turned it off to resolve a whole host of bugs we had. We suggest it is turned off by default until it is fixed.
- Unfortunately we hit a show stopper in SSL with Grizzly. Used Catalina which is done using a system property.





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## Extending Glassfish with Other Open Source Projects

- Ehcache – distributed cache. We use inter alia for HTTP response caching
- Spnego – A JMAC plugin for Kerberos
- Open Message Queue cluster for intercomponent messaging



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## Ehcache

- Required some minor changes to the Caching Filter to support Glassfish. Version 1.2.4 supports Glassfish
- Hibernate Persistent Object and Collection Caches
- Distributed Page Caches in a “Customer” cluster
- AJAX XML Response Caches
- Distributed Java technology Object Caches
- 6 GB Heap. Requires fine tuning of GC
- Uses SelfPopulating and Blocking Cache
- Web Cache Full Page & Fragment Web Filters
- Disk Store and Persistent Disk Stores



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## Spnego

- Spnego is an SPNEGO and Kerberos plugin for Glassfish.
- Enables Glassfish to participate in a Single Sign On environment using Kerberos.
- Works with IE, Firefox and Safari on Linux, Windows and Mac OS X
- First version finished and will be released soon
- Requires Glassfish V2 and JDK6
- Developed by Wotif.com and Sun.
- CDDL License
- <http://spnego.ocean.net.au>



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## Future Plans

- Moving to Glassfish V2 now for new components and rest by mid-year. Reason: bug fixes, faster starts new features such as JSR107 support
- Implementing an Enterprise Message Queue using Open Message Queue 4.
- Moving to Java 6 along with V2. Required by SPNEGO
- Implementing an enterprise wide Kerberos Single Sign On IAM. Will start using SPNEGO module with Glassfish.
- Maybe: Port two RoR apps to JRuby and run in Glassfish



# Q&A