



## Database trends

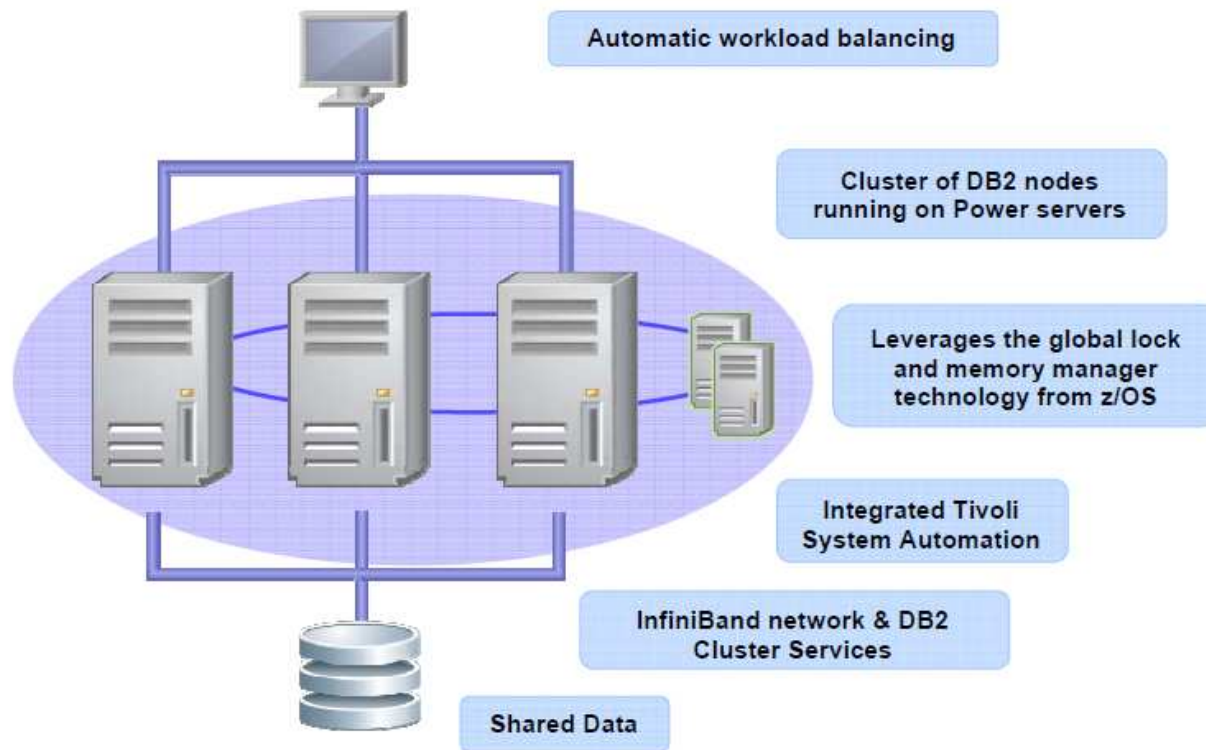
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- Transactional trends (some common)
- Trends common to transactional and warehouse environments
- Warehousing trends

- XML
- Hardware integration
- Solid state disks
- Oracle portability
- Data migration
- Continuous availability

- Increasing use of applications combining relational and XML data
- Two ways to support XML:
  - Logically – means the database understands XML but converts it into relational format or stores it separately
  - Structurally – means the database stores XML as XML AND understands it logically





IBM has tested more than 750,000 lines of PL/SQL and it has achieved an average compatibility of 98.43%.



- Much less risky than it used to be
- Better tools
- More understanding
- Methodologies and best practices
- Zero-downtime migrations



- High availability caters for unplanned downtime
- Continuous availability caters of planned and unplanned downtime

- ▣ Archival
- ▣ Green
- ▣ Appliances/Ease of implementation
- ▣ Autonomics
- ▣ Performance
- ▣ Scalability

- Saves storage costs
- Reduces footprint
- Improves performance
- Releases resources

- ▣ Reduced electricity requirements
- ▣ Reduced cooling
- ▣ Reduced footprint

Enables cost savings



- Single install

- Minimum time to system coming up

- Convenience

- Reducing administration requirements

- Automated performance tuning and recommendations

Always a requirement  
– enabled by many of  
the other trends under  
discussion



photo by Amnemona

- Always a requirement

- Needs to be easy to achieve



- In-database analytics
- Compression
- Encryption
- Low latency analytics
- MapReduce and R
- Spatial and other data



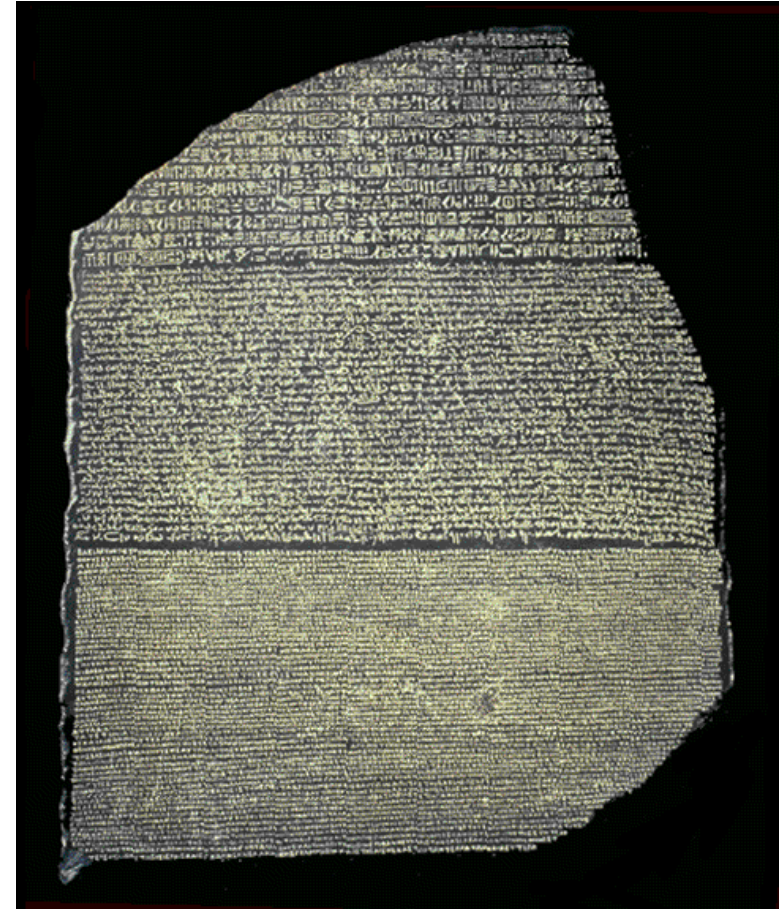
**Much, much faster and more accurate if run in-database**

- ☰ Saves disk space
- ☰ Reduces costs
- ☰ Improves performance



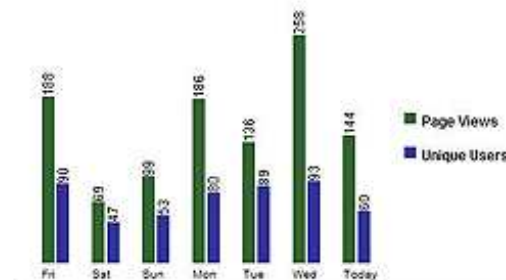
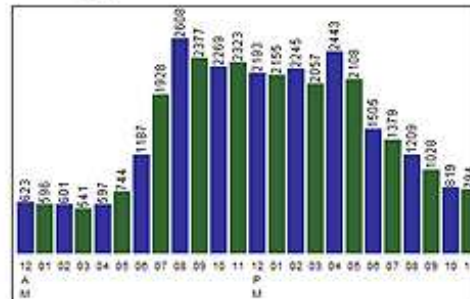
- ☰ The broader the application the better
- ☰ Need implementation at column level for best results

- Required for many data protection environments (with masking)
- Should be implemented at column level to minimise performance implications



Real-time web analytics, fraud detection, capital markets, telecommunications call analysis, online gaming, social media, web comparison sites, sensor-based applications ...

Peak Usage by Hour

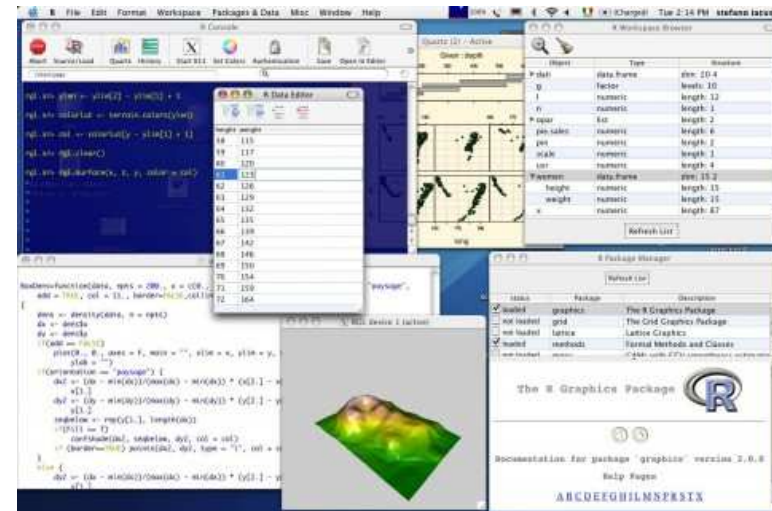
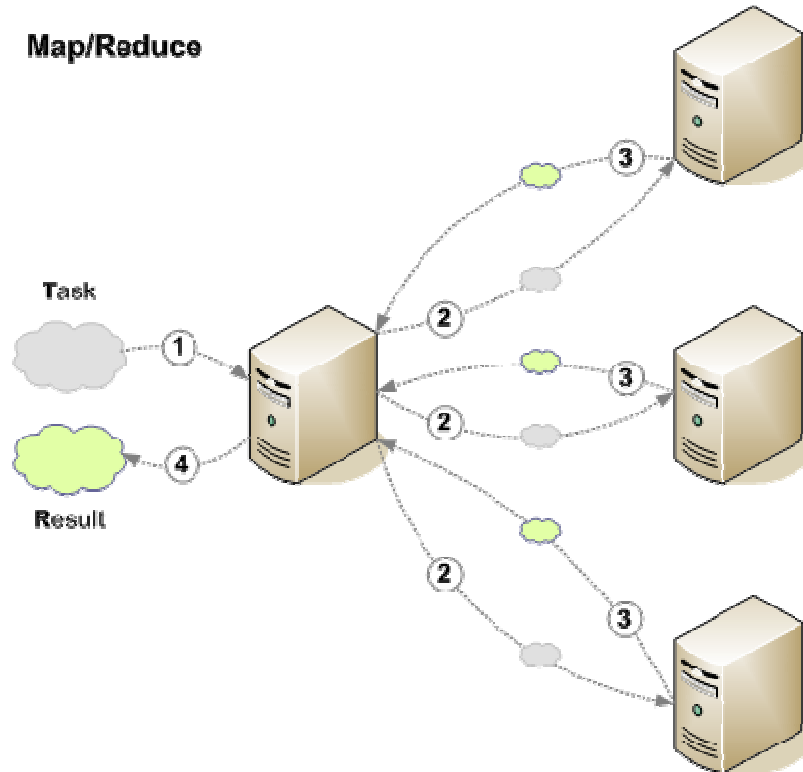


Page Views per Day

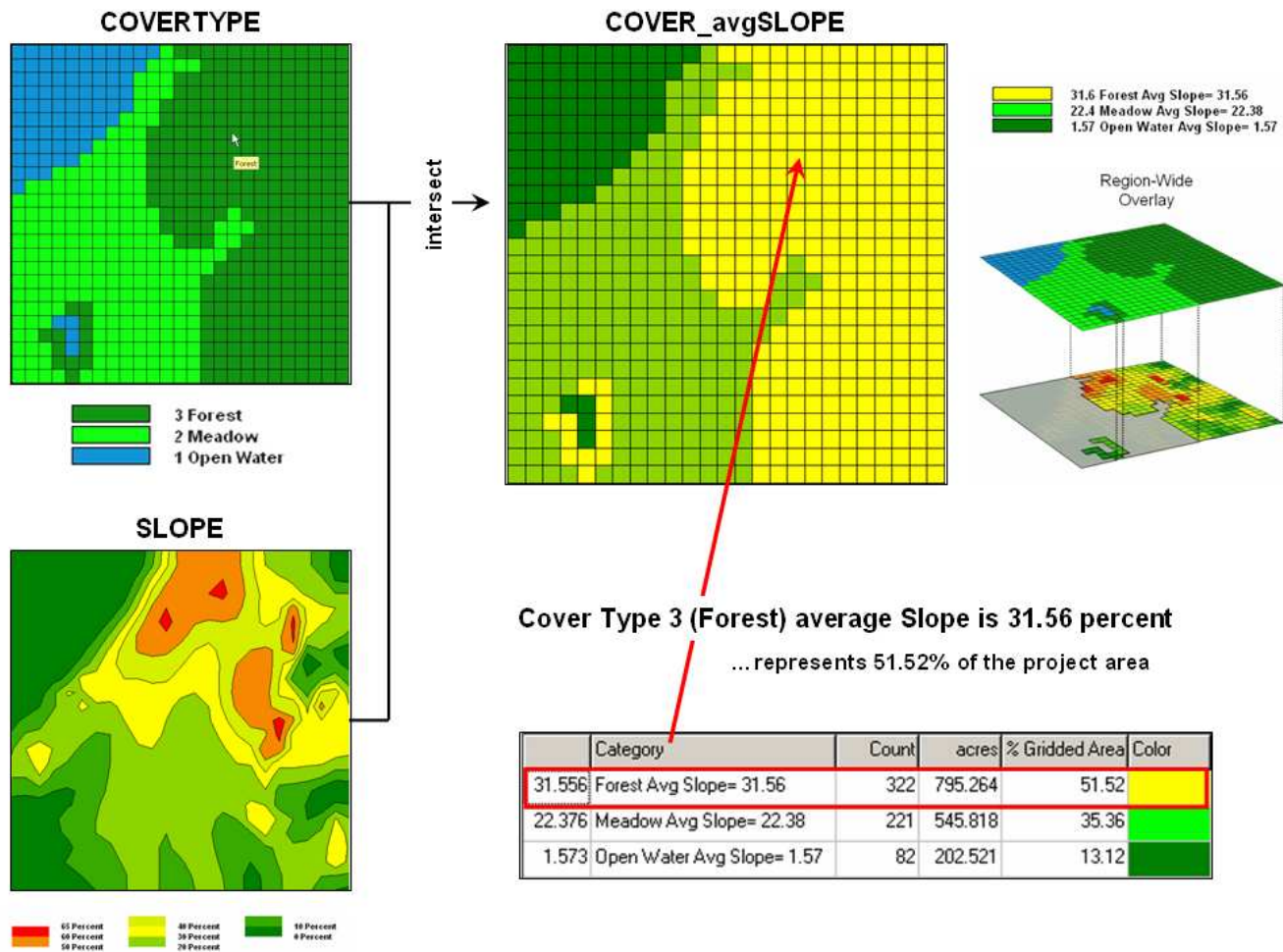


Sunday	1478 (11.26%)
Monday	2146 (16.50%)
Tuesday	2139 (16.45%)
Wednesday	2136 (16.42%)
Thursday	2115 (16.26%)
Friday	1742 (13.39%)
Saturday	1250 (9.61%)
Total	13006 (100%)

## Map/Reduce







- There are many trends in database technology
- Some provide new or additional functionality
- Almost all provide either reduced costs or better performance or both



THANK  
YOU