

# **ISIS** Network-based **P**latform

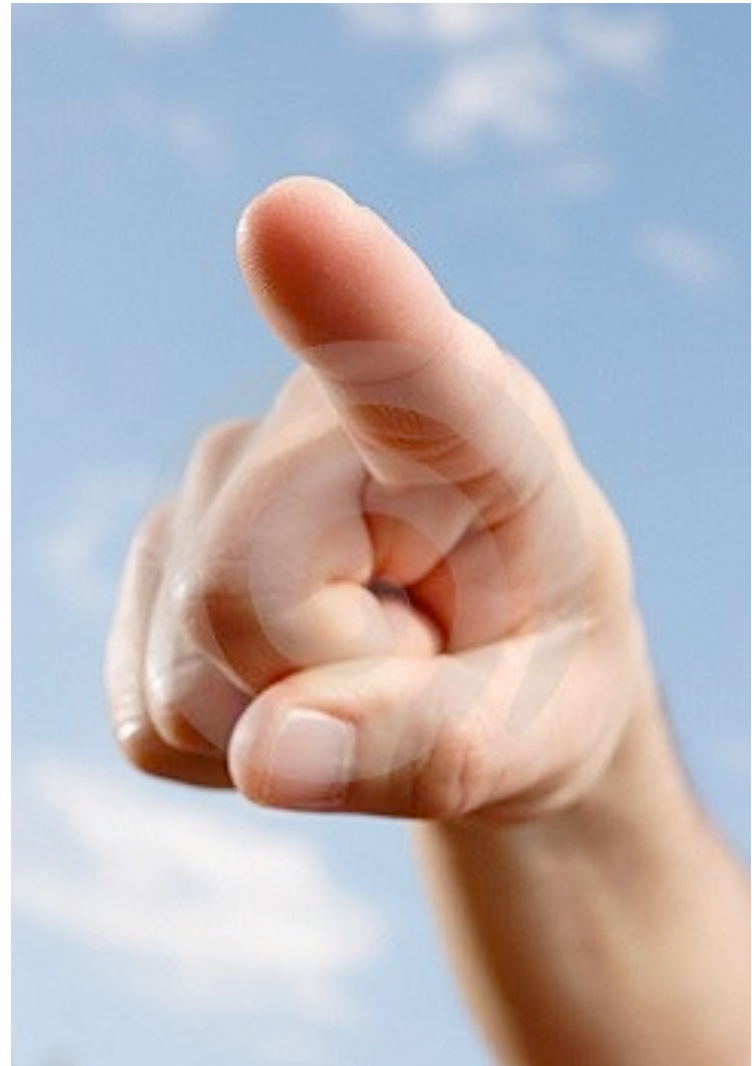
**Rodrigo Dias Arruda Senra**

# My background

- BIREME's collaborator since 2006
- Software Architect and Developer  
*GPr Sistemas since 1996*
- Computer Engineer and PhD student  
*IC/Unicamp*
- **newbie/novato in ISIS world**



# Who is in the audience ?



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✓ CDS/ISIS mailinglist subscribers ?



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- ✓ Software developers ?
- Not covered above!





# Presentation Outline

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- Contextualizing ISIS-NBP

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- What is ISIS-NBP ?
  - ▶ vision / architecture /scenarios

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  - ▶ Past / Present / Future

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- Demonstration
- Development
  - ▶ client applications for ISIS-NBP
  - ▶ ISIS-NBP itself

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- Contextualizing ISIS-NBP
- What is ISIS-NBP ?
  - ▶ vision / architecture /scenarios
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- Demonstration





# ISIS-NBP in Context

# History

# History

April 2006

- first contact with BIREME
- connect Isis to Plone/Zope !?

# History

April 2006

May 2006

- Unesco Headquarters in Paris
- new open source network-based ISIS project

# History

April 2006

May 2006

January 2007

- my first contact with CDS/ISIS Mini-micro Manual

# History

April 2006

May 2006

January 2007

July 2007

- released ISIS-NBP Vision Report

# History

April 2006

May 2006

January 2007

July 2007

April 2008

- ISIS-NBP prototype 0.1

# History

April 2006

May 2006

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July 2007

April 2008

**September 2008**

- released ISIS-NBP 0.8 in the III World Meeting of CDS/ISIS



# Myths: ISIS-NBP...

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- ... is ready for prime time!

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# Truths: ISIS-NBP...

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# Truths: ISIS-NBP...

- ... is under development
- ...is an application
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- ... is under development
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- ... is release through an open license and should be a community effort
- ... is for Unix programmers or old DOS users

# Truths: ISIS-NBP...

- ... is under development
- ...is a platform
- ... is *hopefully* evolution in ISIS world
- ... is release through an open license and should be a community effort
- ..., for the time being, targets developers.  
But any tribe is welcome to try it! 😊 😊



**Vision**

# Goals

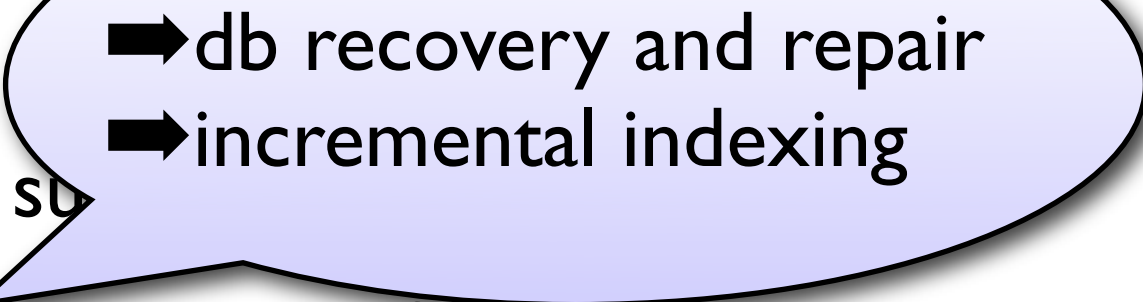



- overcome ISIS limitations in capacity
- support i18n, l10n, Unicode
- improve software and data maintenance
- flexible, scalable and interoperable
- compatible with ISIS
- add new functionality
- FOSS methodology

**larger** fields, records,  
files, and databases

- overcome ISIS limitations in capacity
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# Goals

-   db recovery and repair city
-  incremental indexing
-  su
- improve software and data maintenance
- flexible, scalable and interoperable
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# Goals

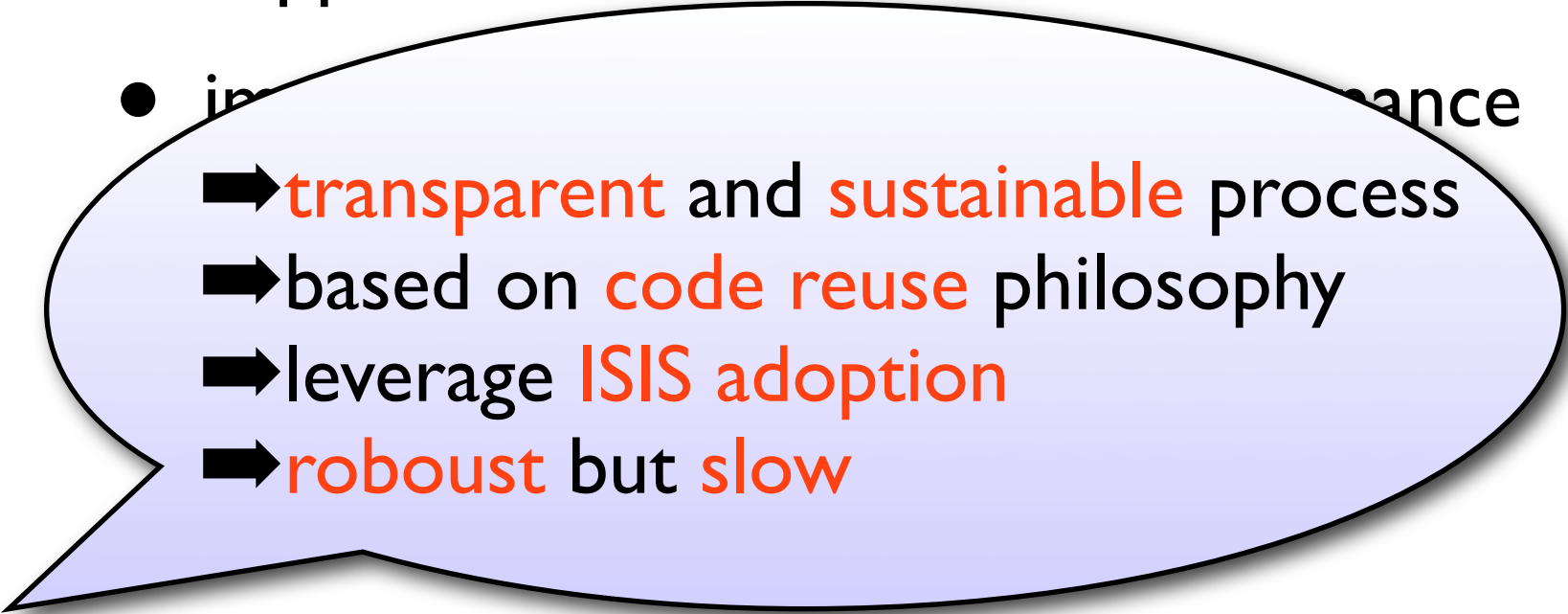
- overcome ISIS complexity
- smooth migration path
- preserve formatting language
- evolutive and incremental deploy
- flexible
- compatible with ISIS
- add new functionality
- FOSS methodology

# Goals

- over capacity
- unlimited field nesting
- metadata composability
- full-document storage
- accommodate new media
- semantic web adherence
- add new functionality
- FOSS methodology

# Goals

- overcome ISIS limitations in capacity
- support i18n, l10n, Unicode
- improve performance



- ➔ transparent and sustainable process
- ➔ based on code reuse philosophy
- ➔ leverage ISIS adoption
- ➔ robust but slow

- FOSS methodology

# Goals

- overcome ISIS limitations in capacity
- support i18n, l10n, Unicode
- improve software and data maintenance
- flexible, scalable and interoperable
- compatible with ISIS
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# Proposal

- Rethink the storage
- Rethink the model
- Improve scalability
- Increase interoperability
- Migration path

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- support XML
- multiple backends
- ISIS-NBP Cells
- multi-protocol
- **First priority!**



**Architecture**

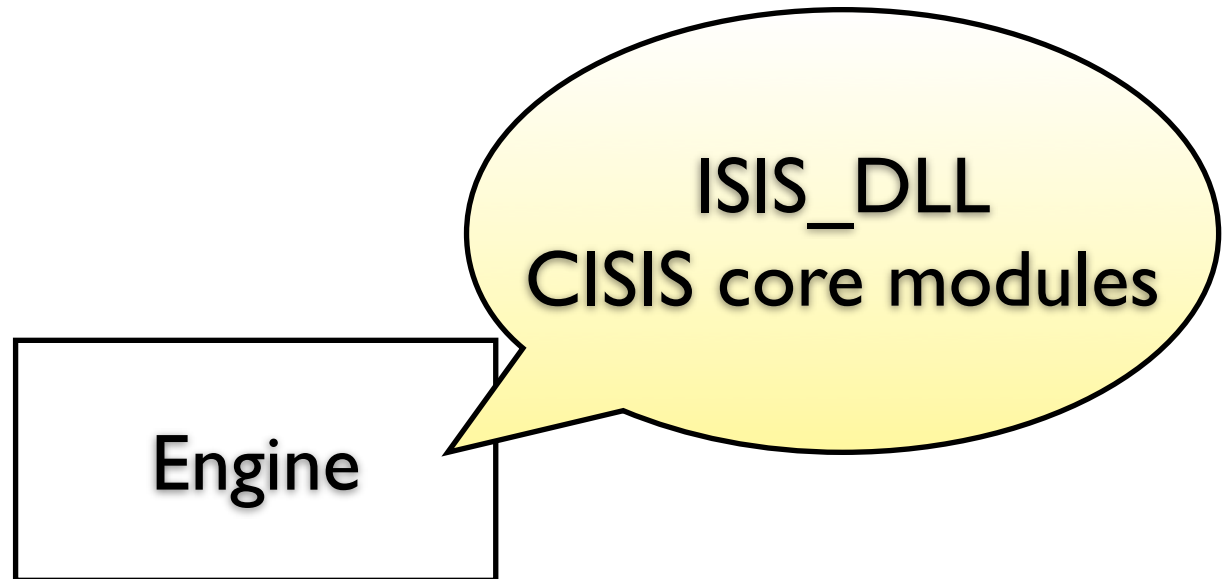
# Classic ISIS Tools and Applications

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Engine

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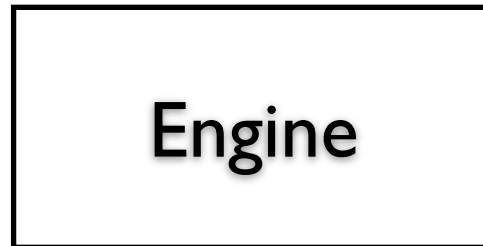
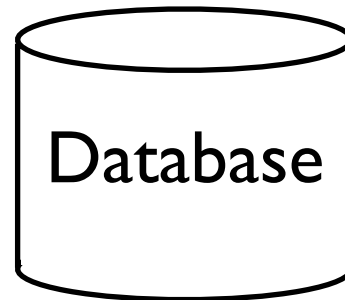


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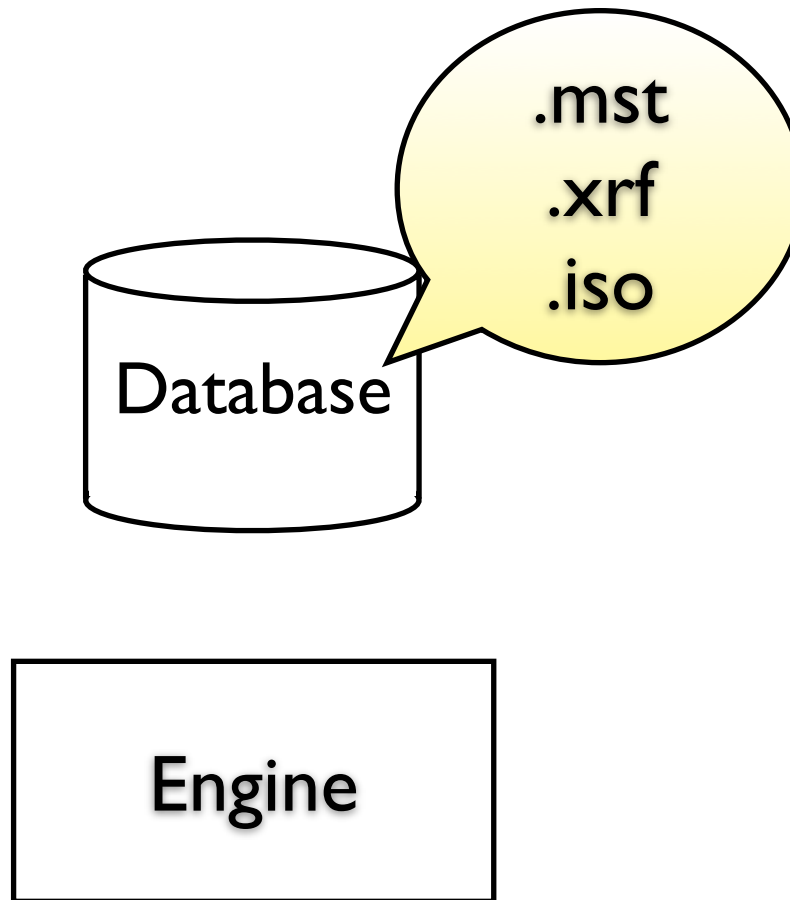


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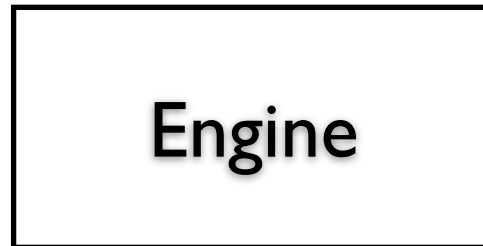
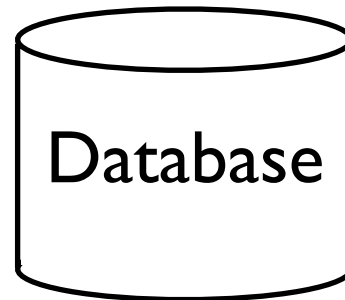
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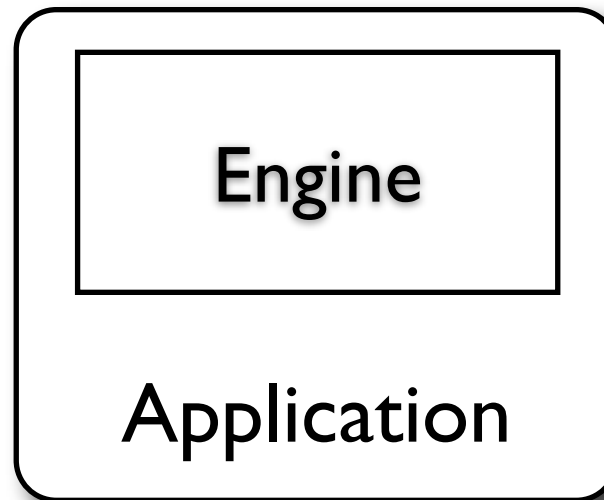
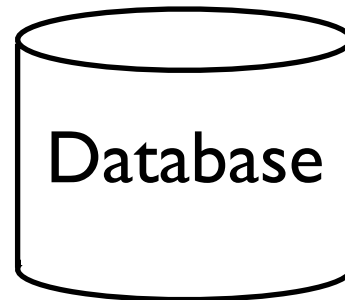
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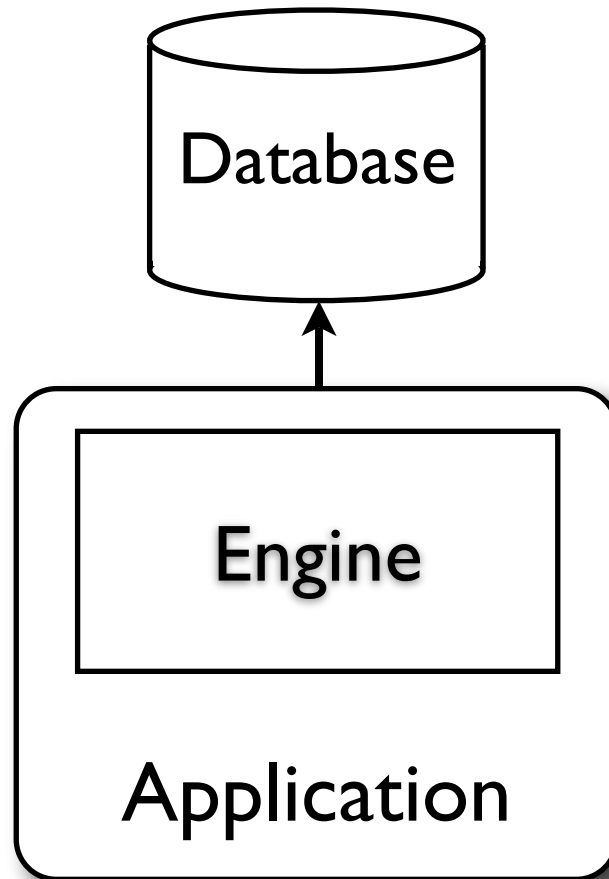
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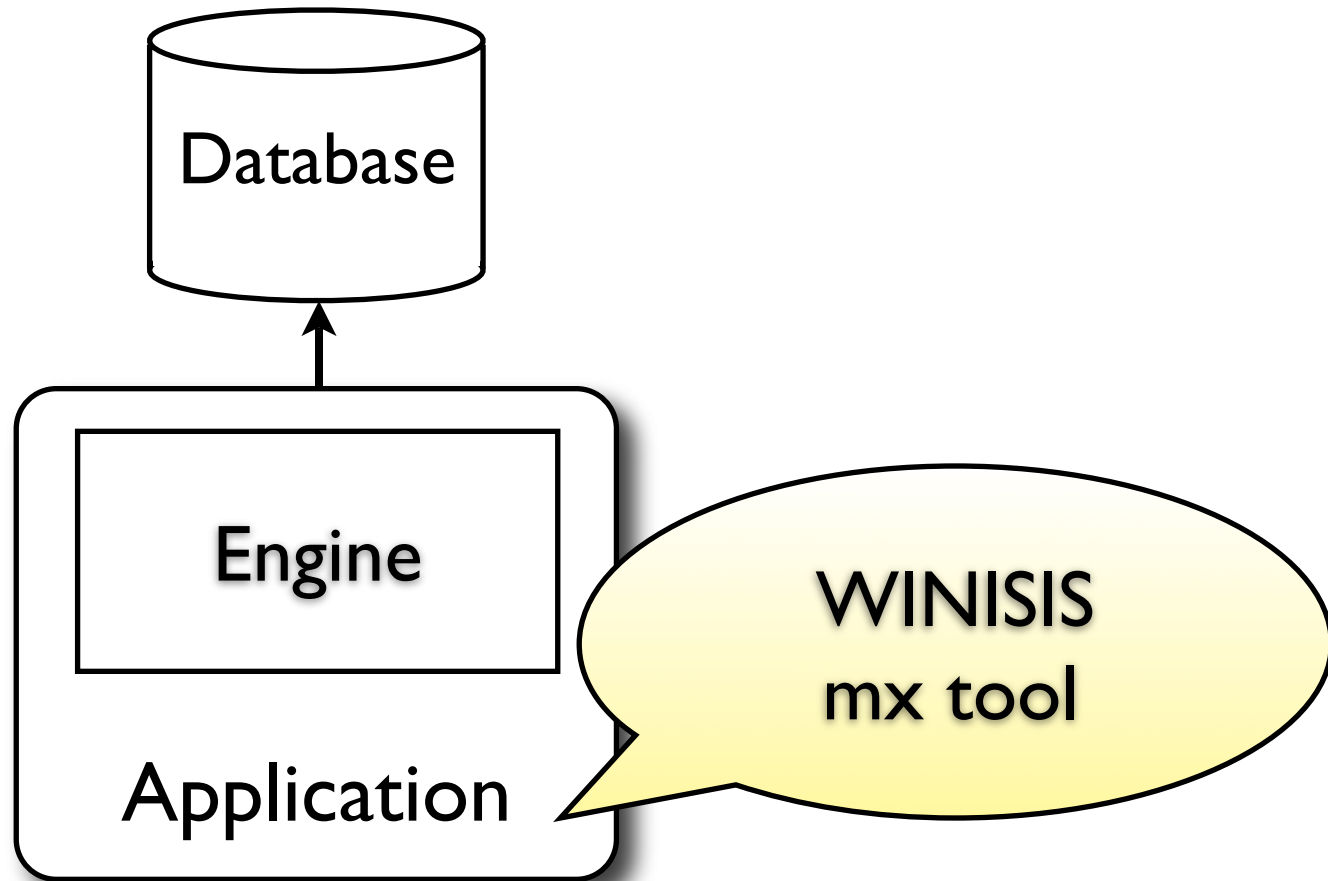
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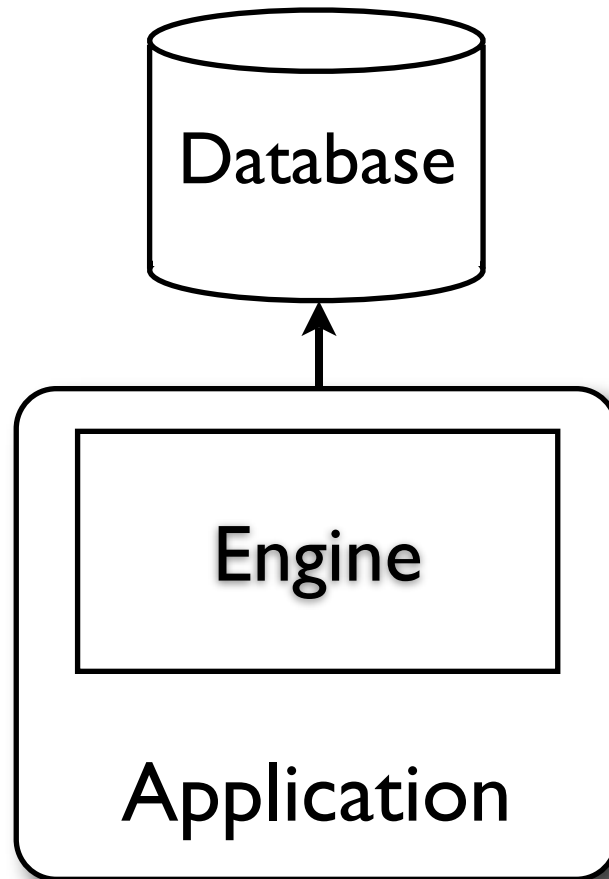
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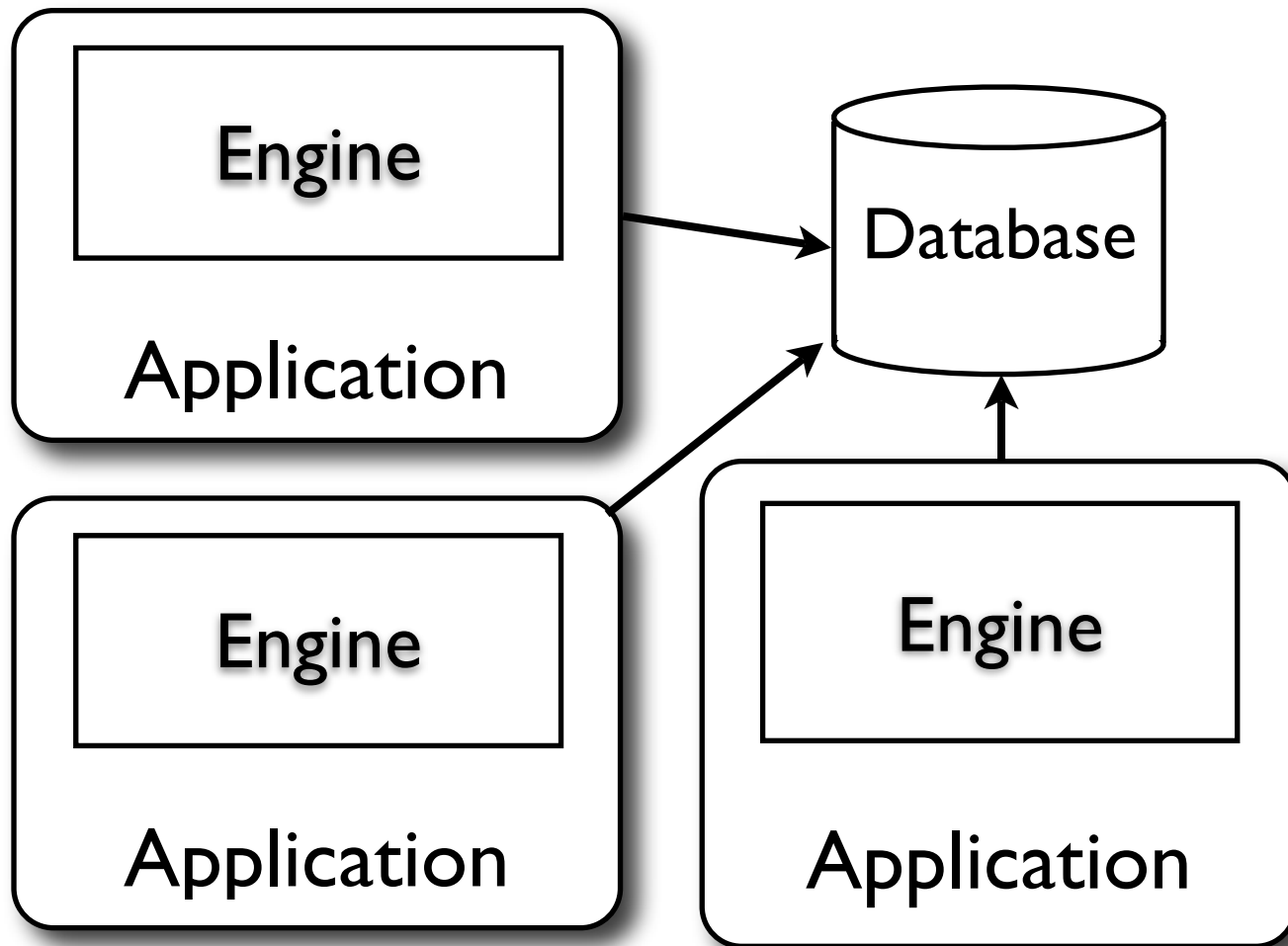


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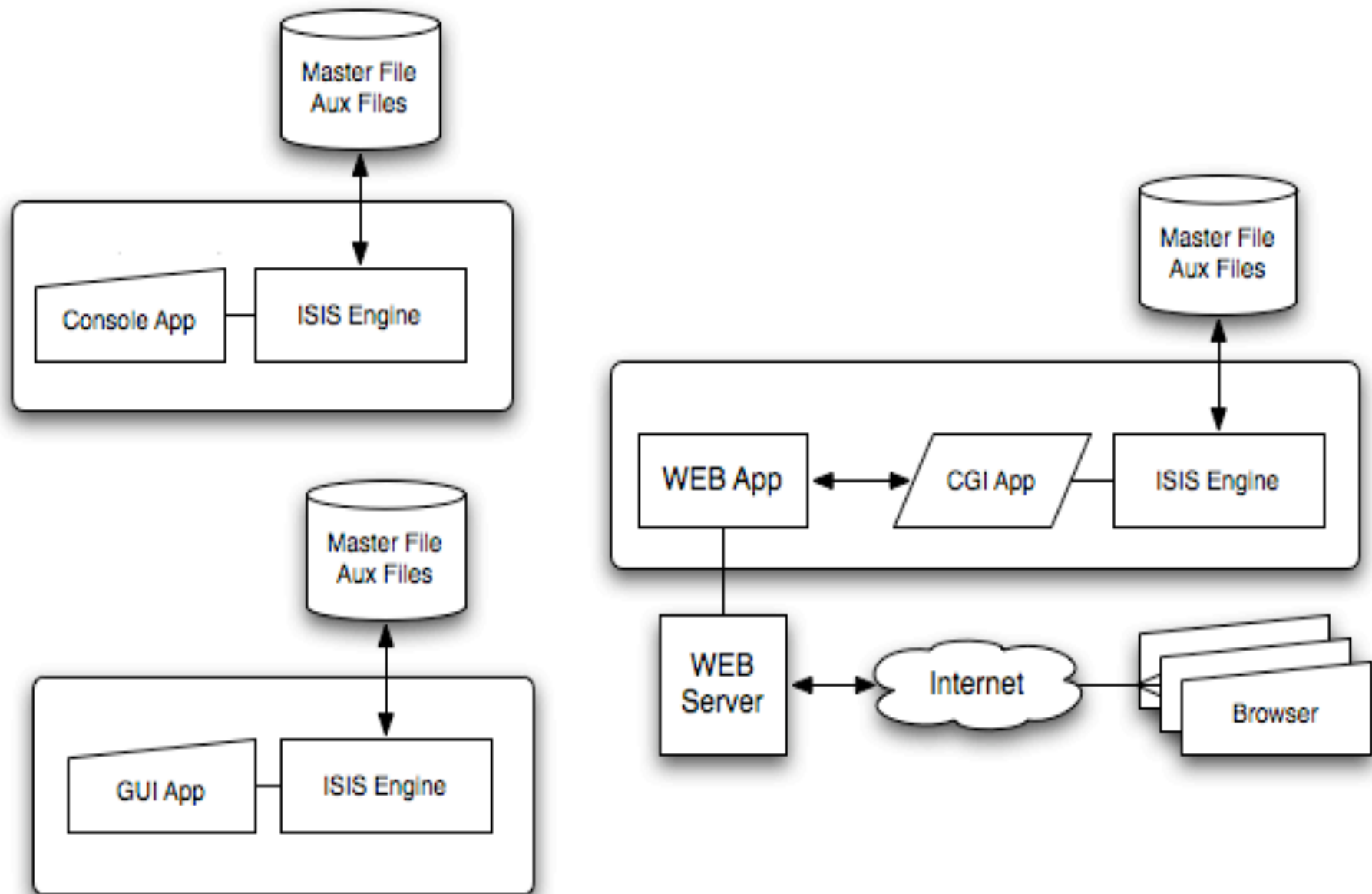




# Classic ISIS Tools and Applications



# ISIS Architecture



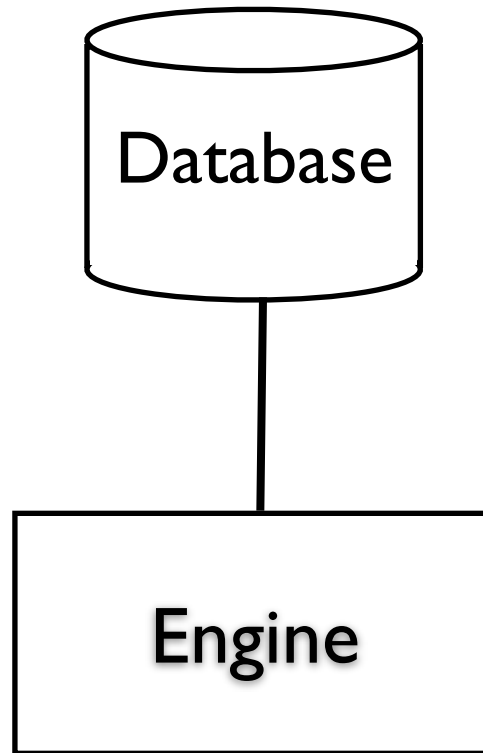
# ISIS-NBP Cell

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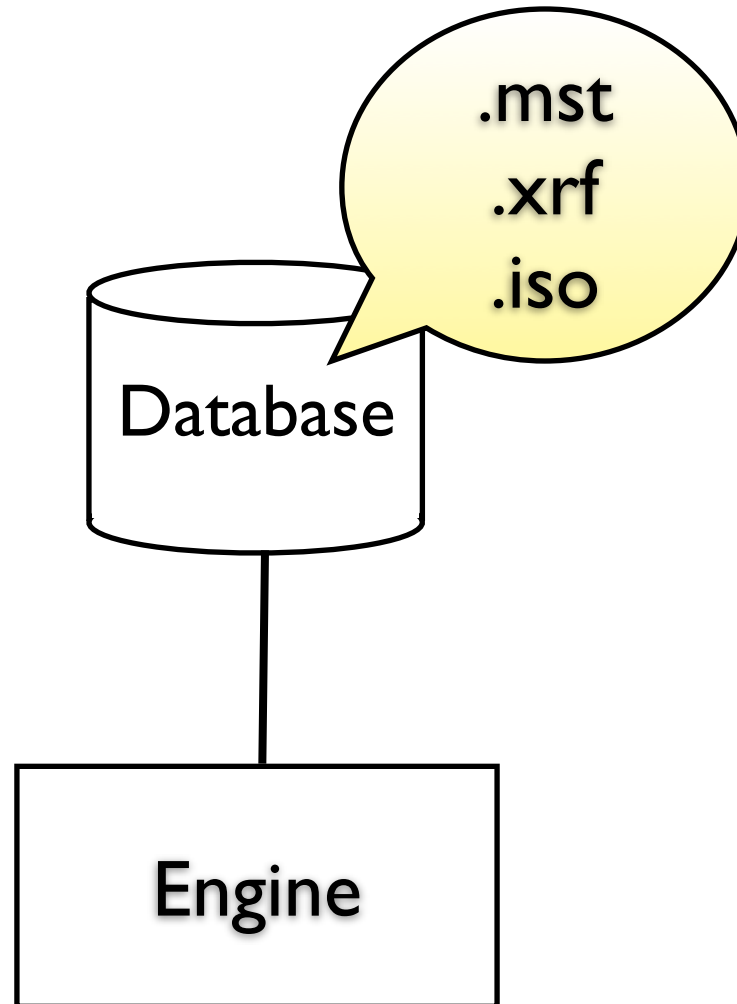


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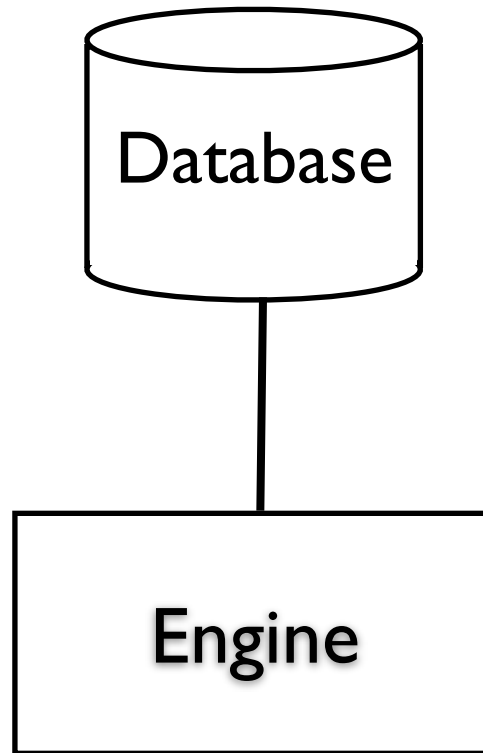
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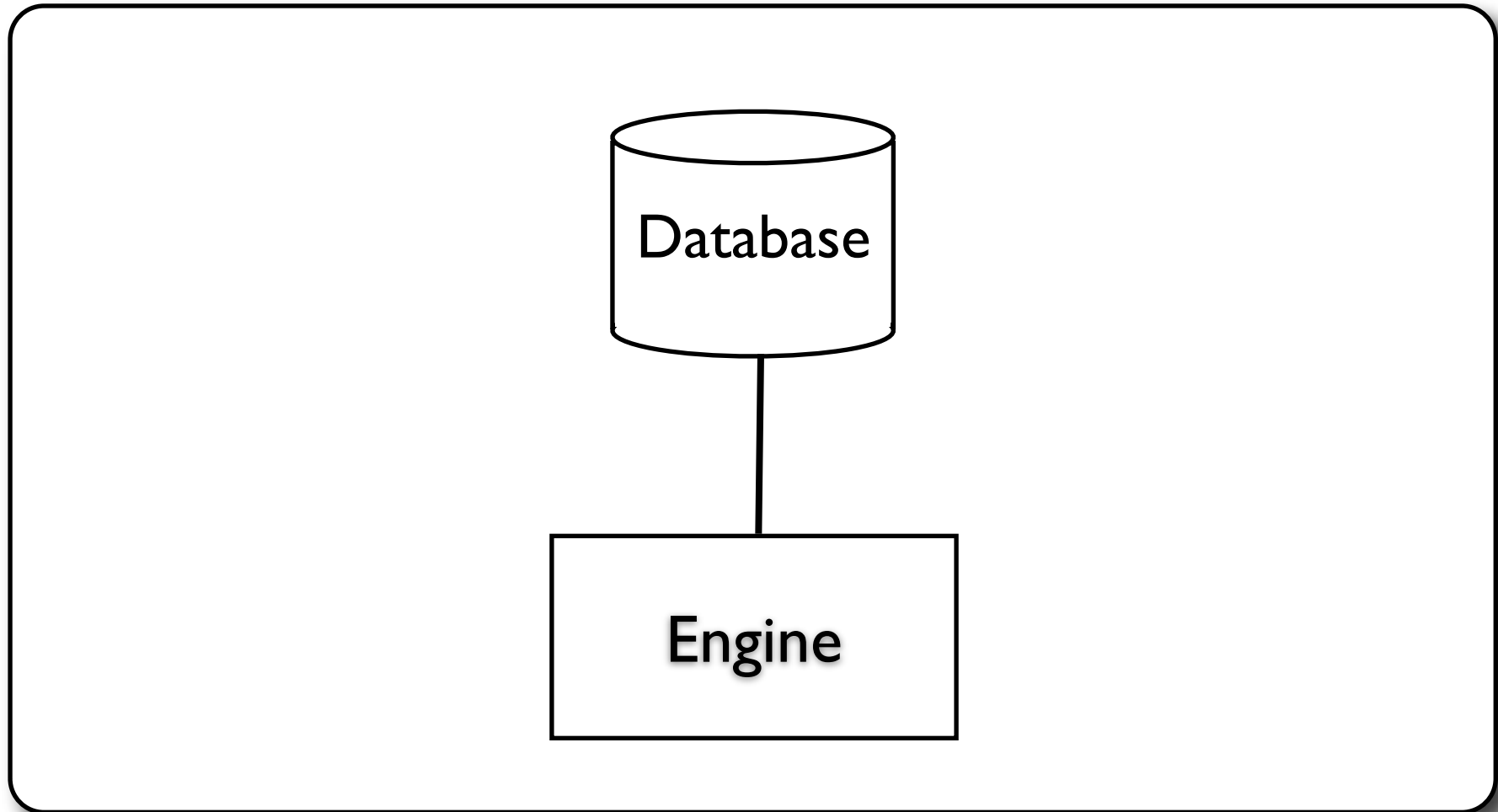
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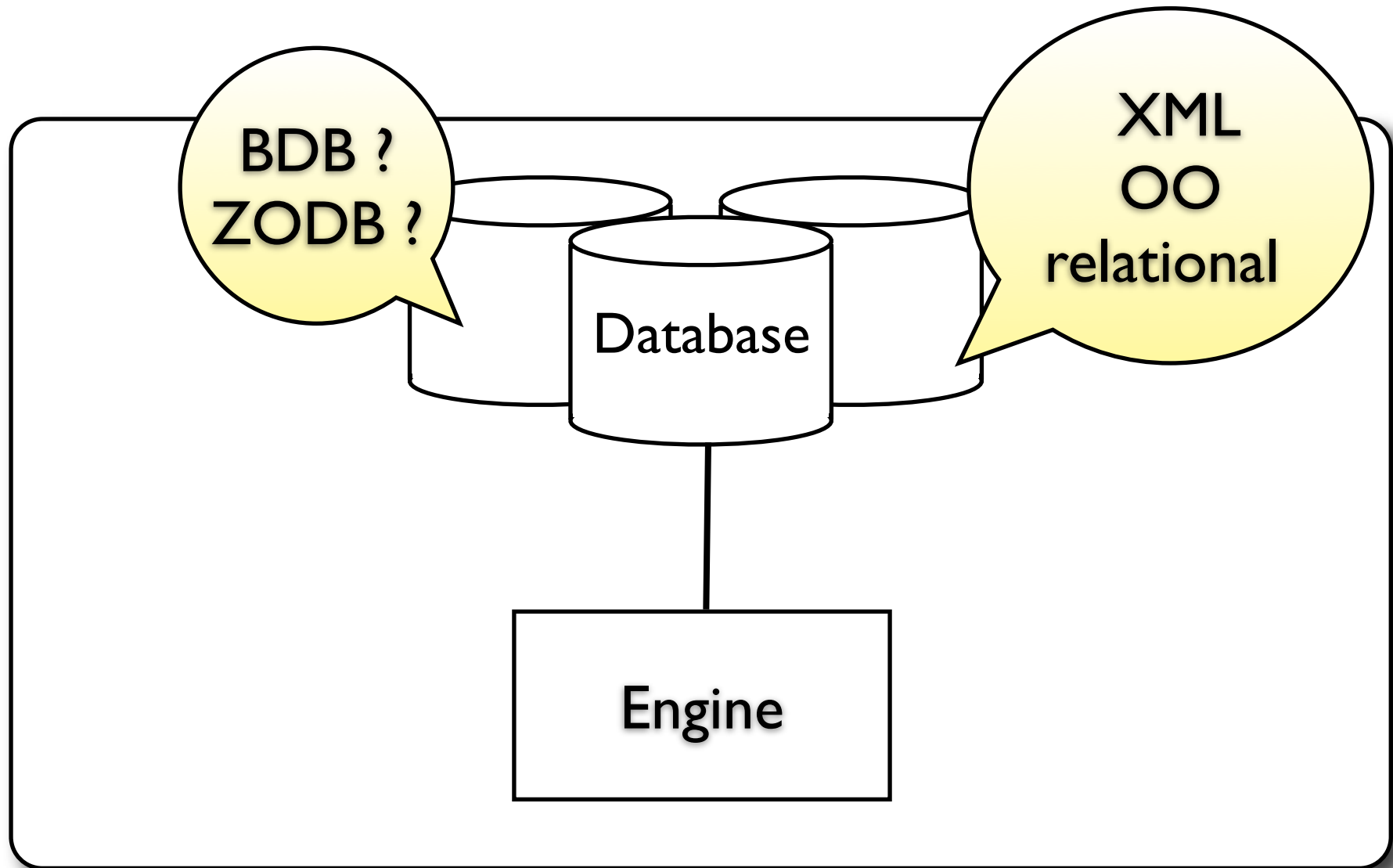


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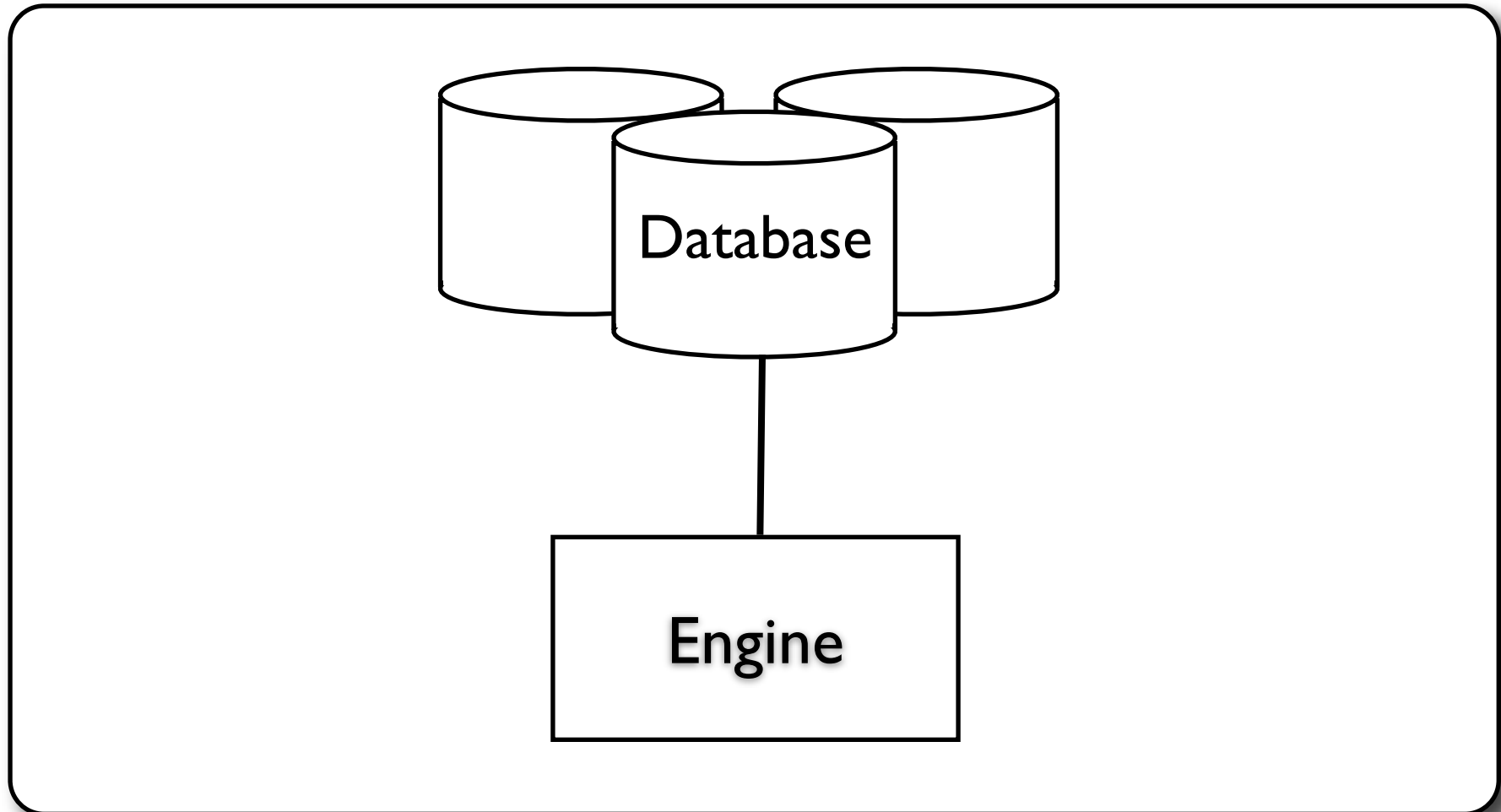




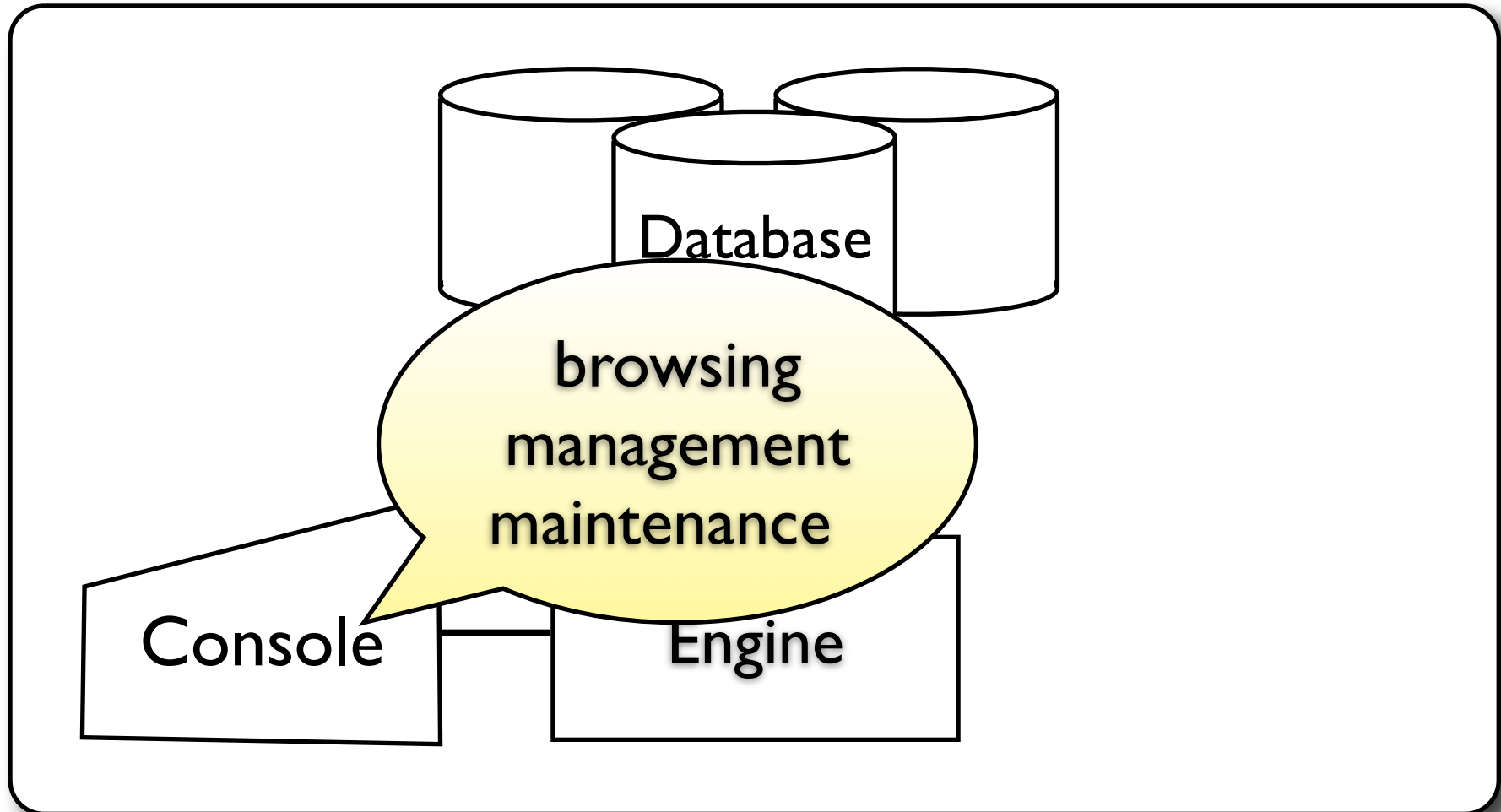
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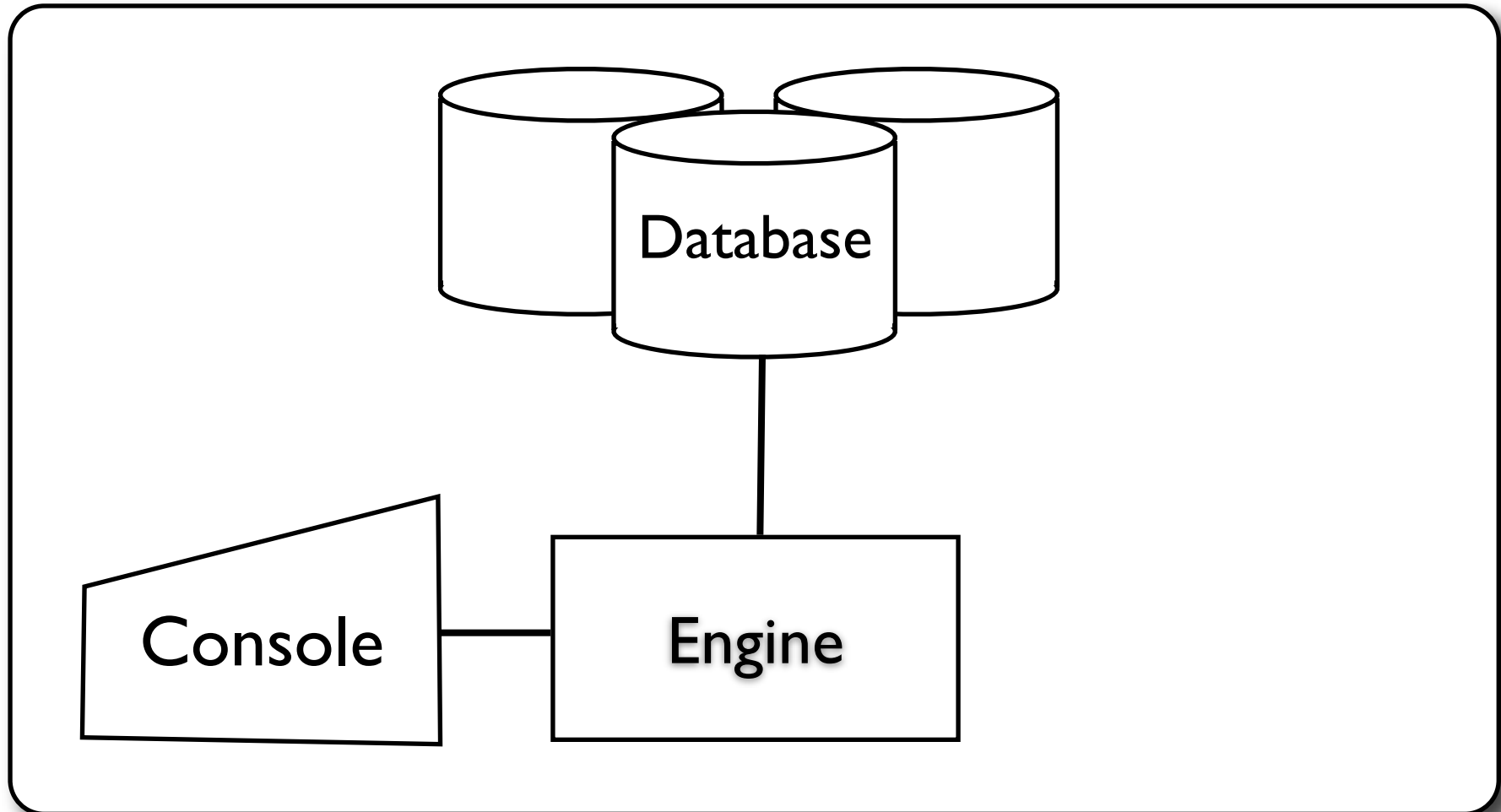
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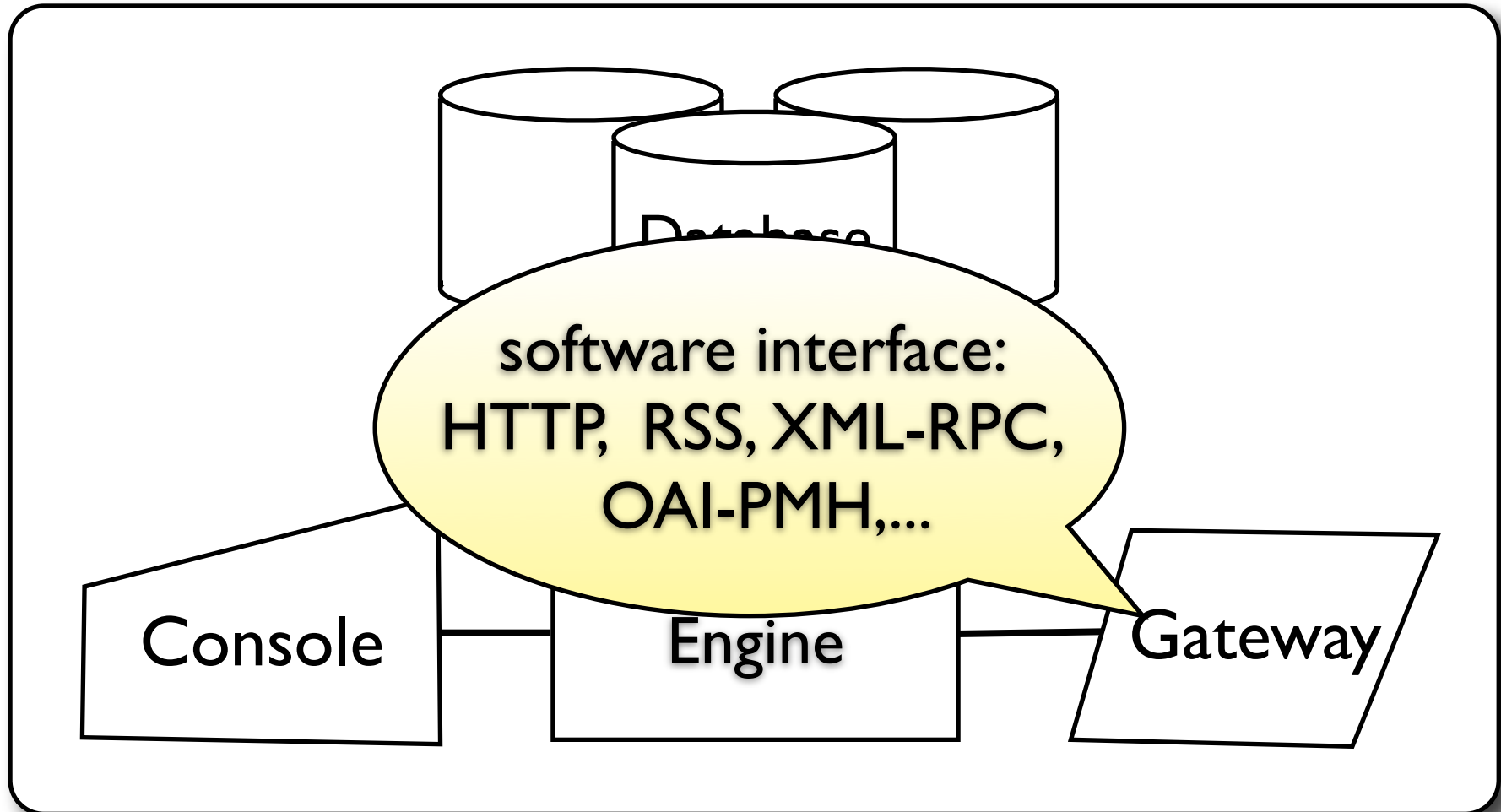
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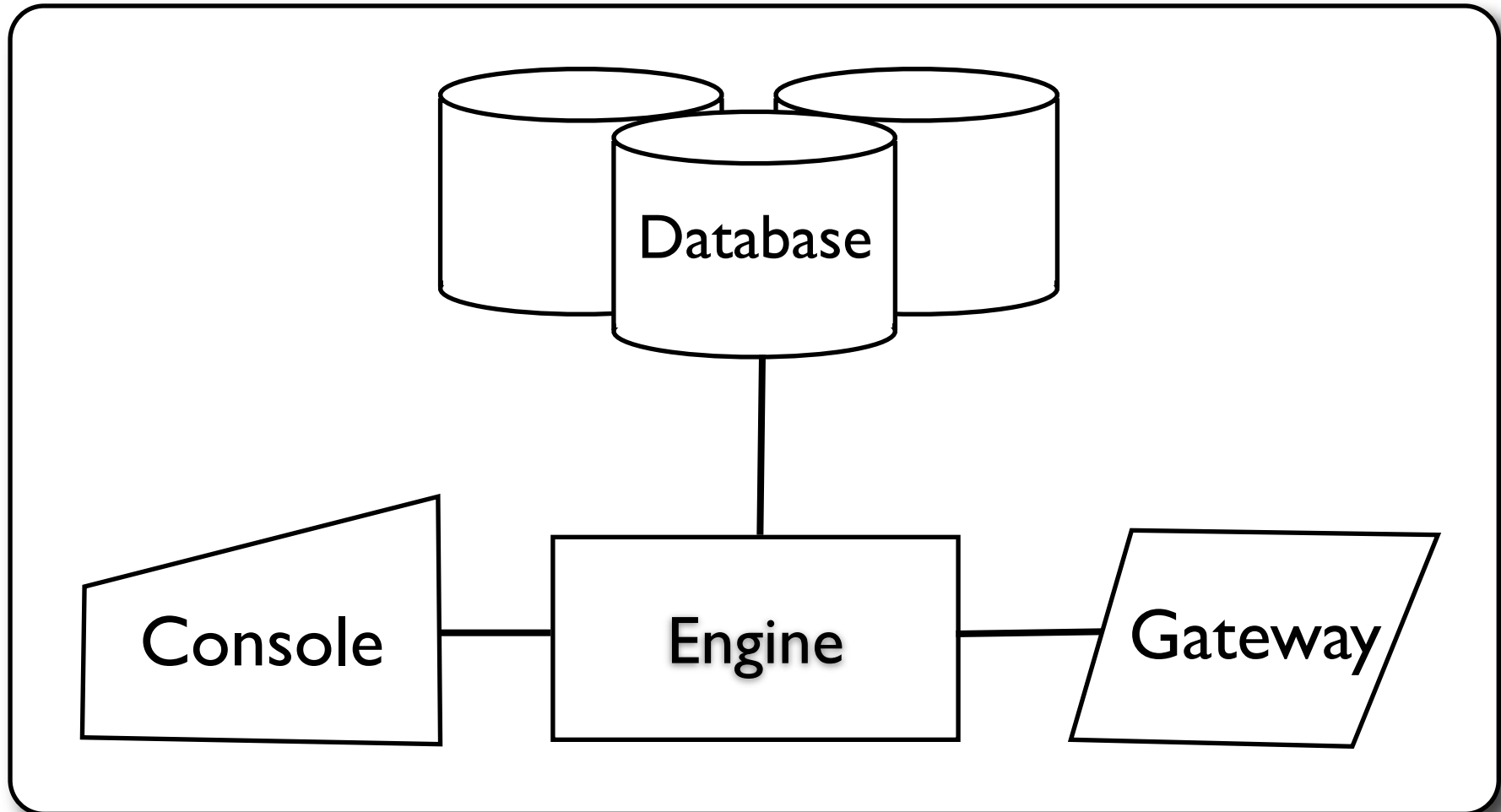
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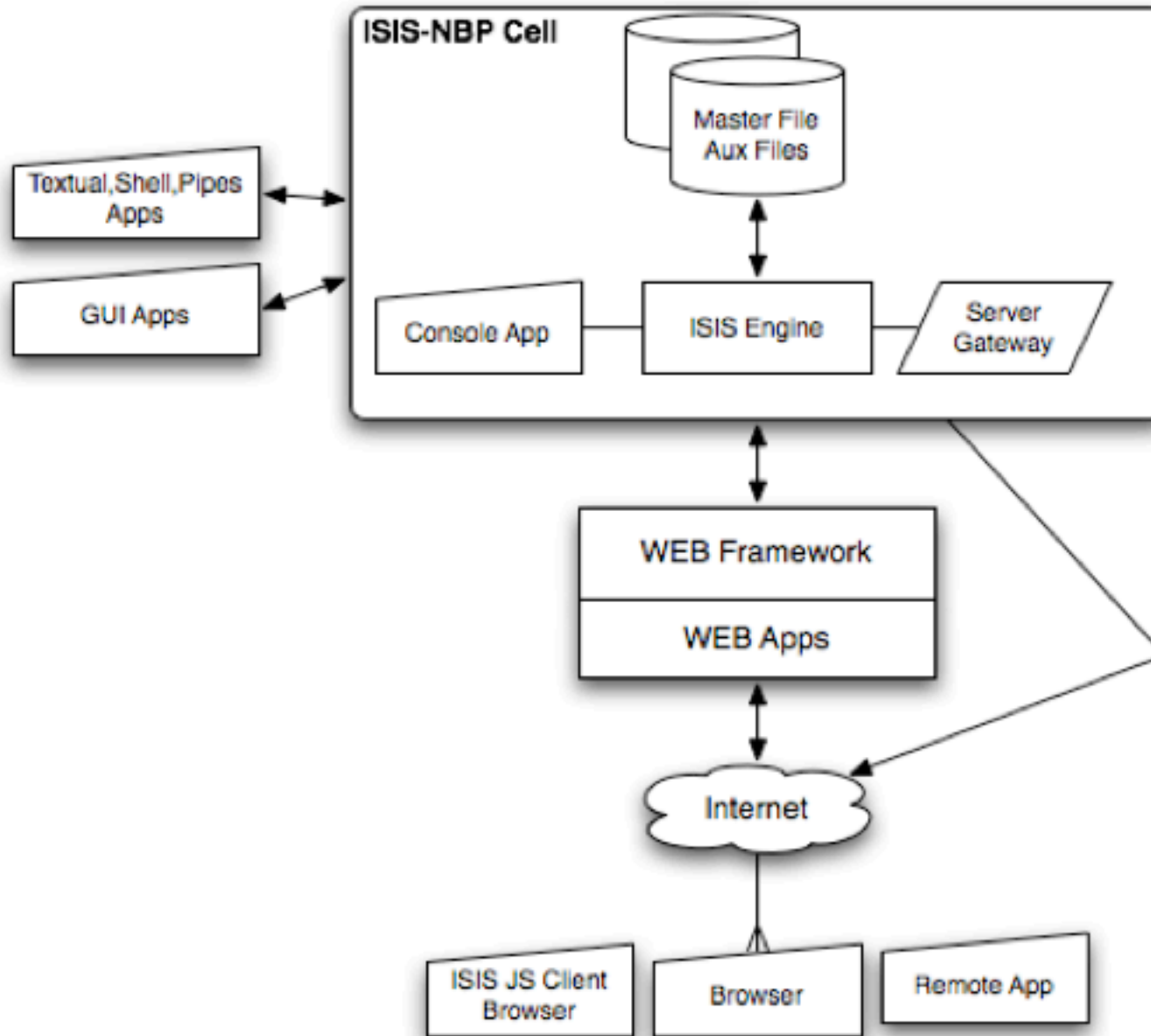




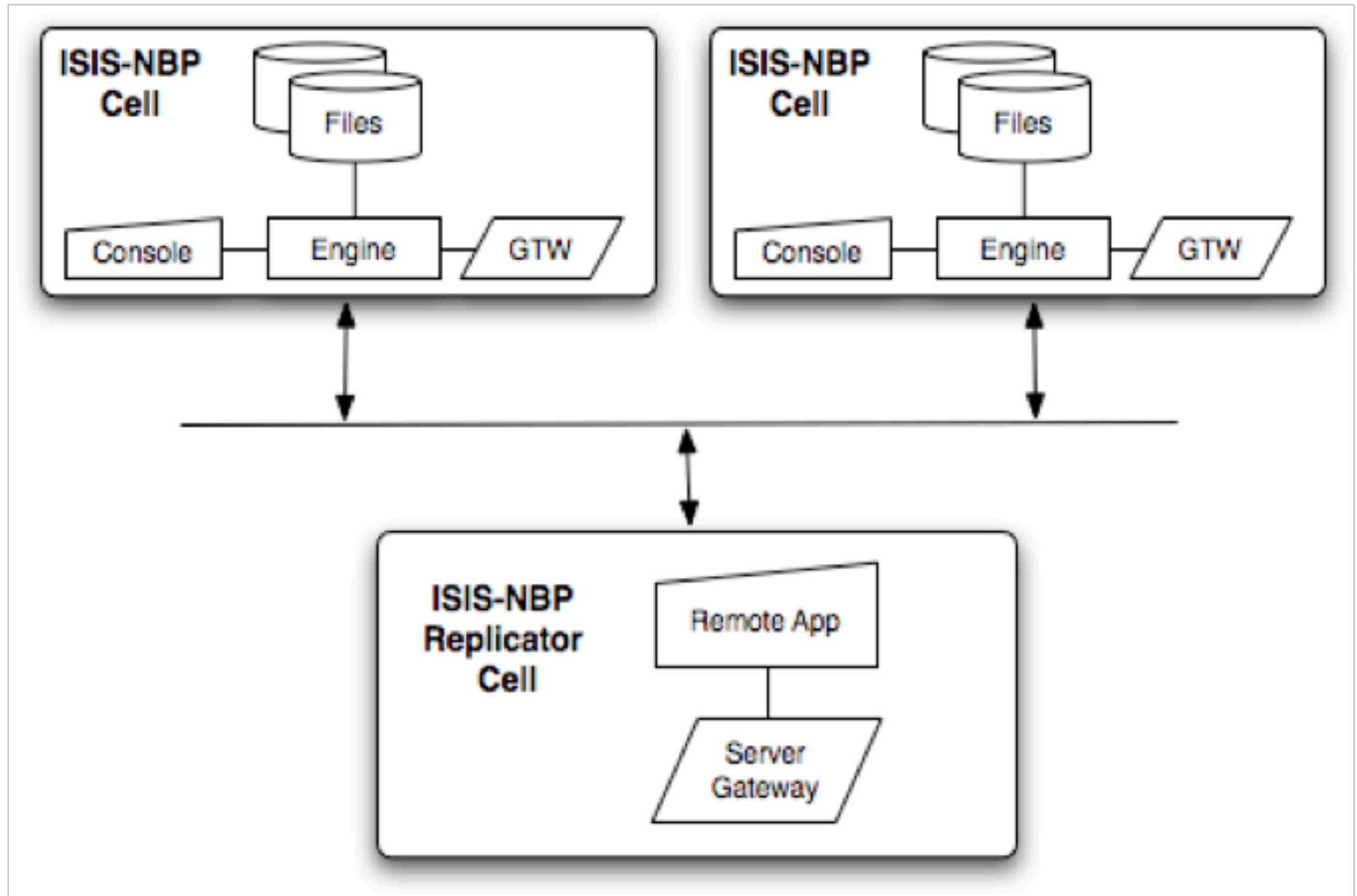
# Scenarios



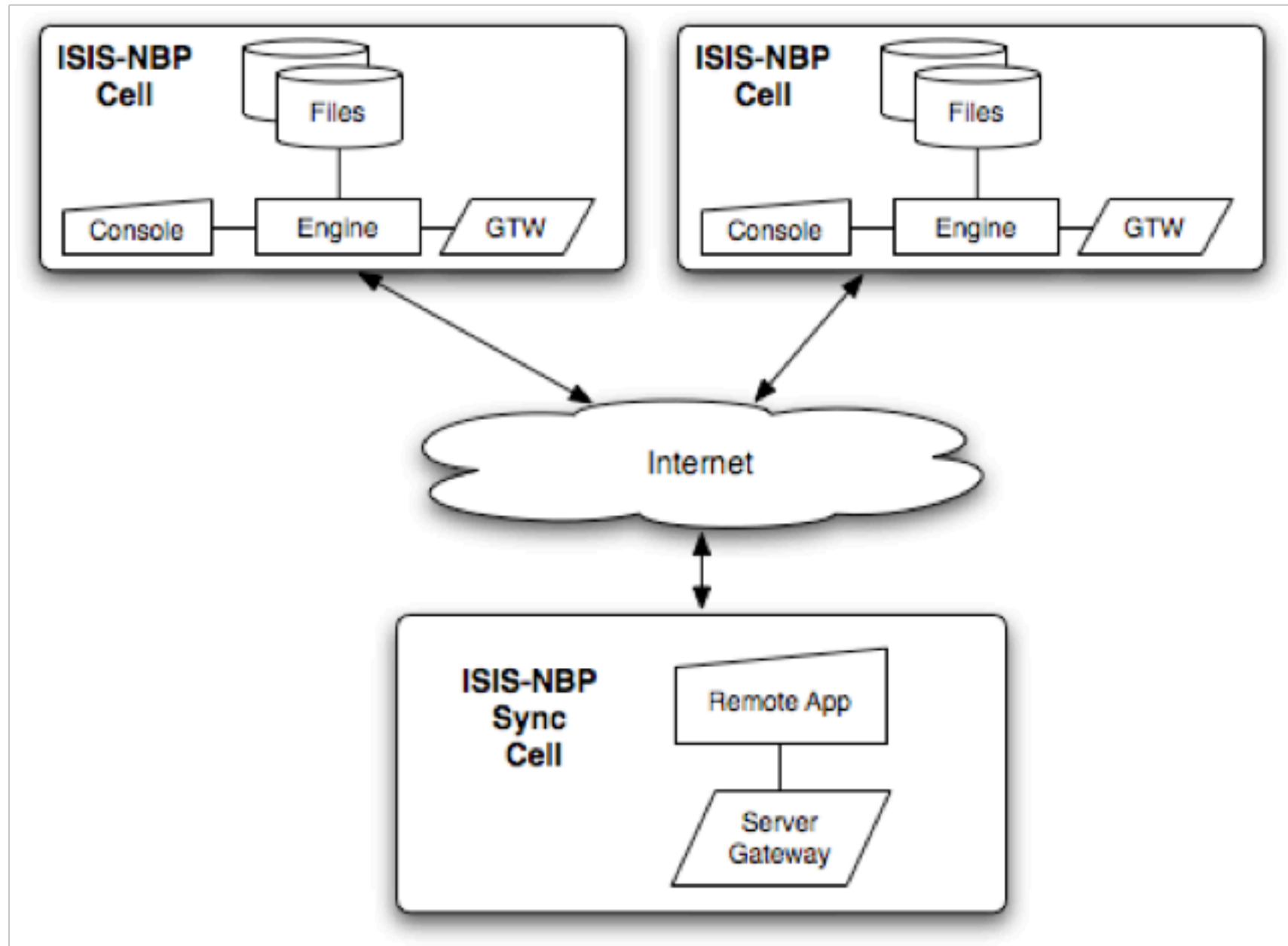
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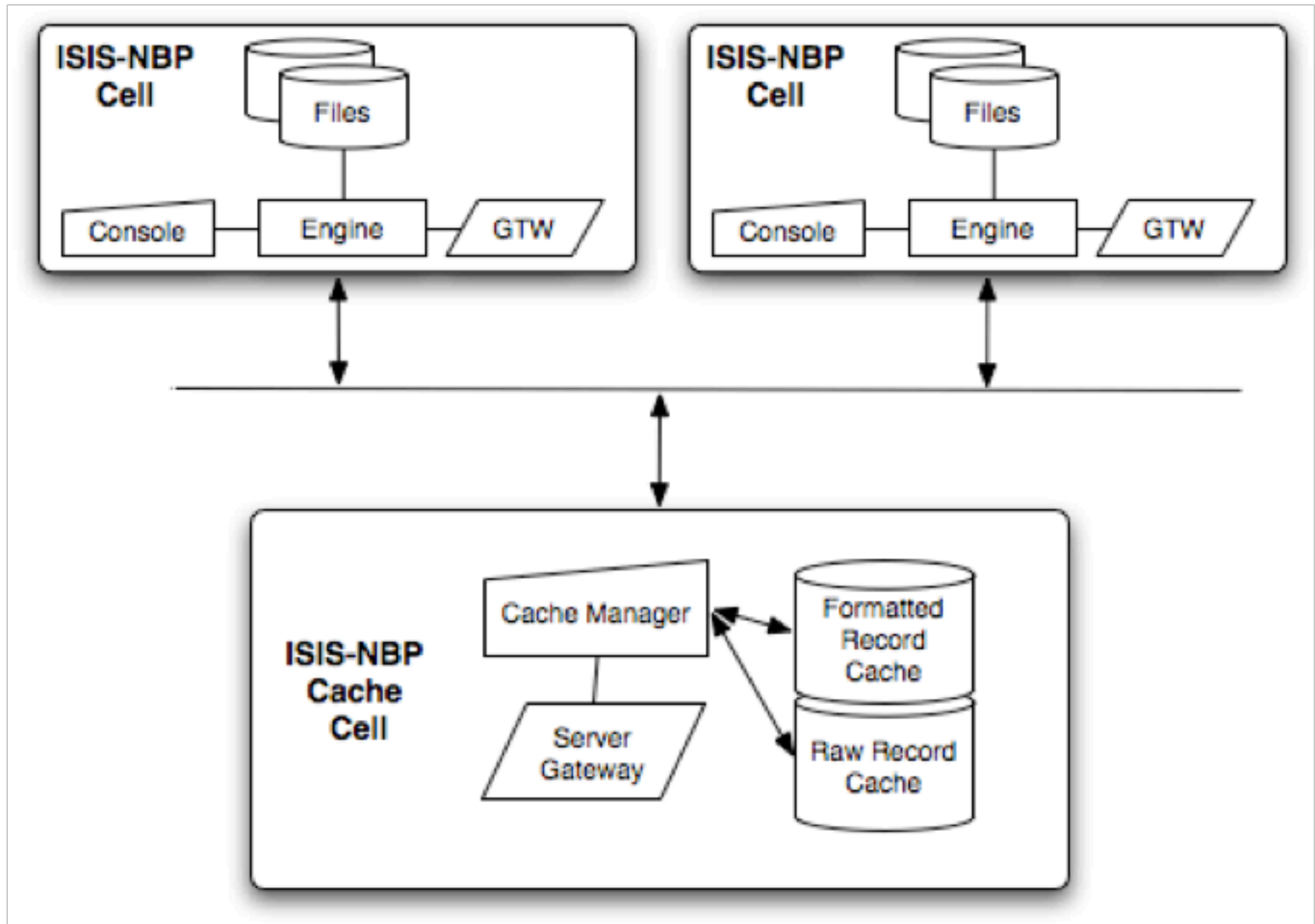
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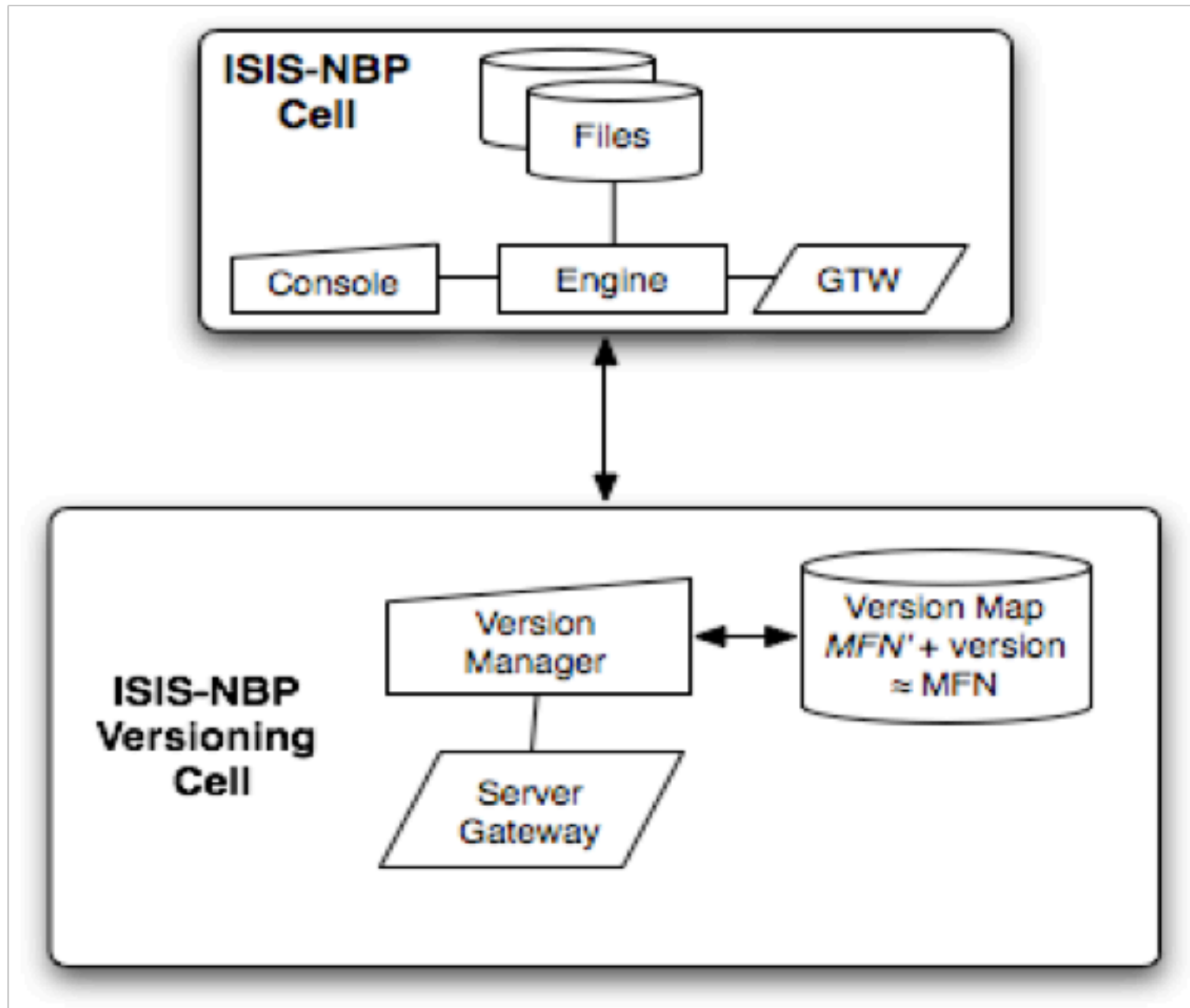
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# ISIS-NBP in Action

# ISIS-NBP in action

- **Interactive Console**

- ▶ browse collection
- ▶ pft
- ▶ unicode / encoding / gizmo
- ▶ cascaded configuration
- ▶ il8n
- ▶ remote console

- **Gateway**

- ▶ remote console
- ▶ embedded HTML
- ▶ URL based (actionlets)
- ▶ HTTP REST
- ▶ XML-RPC





# Project Status

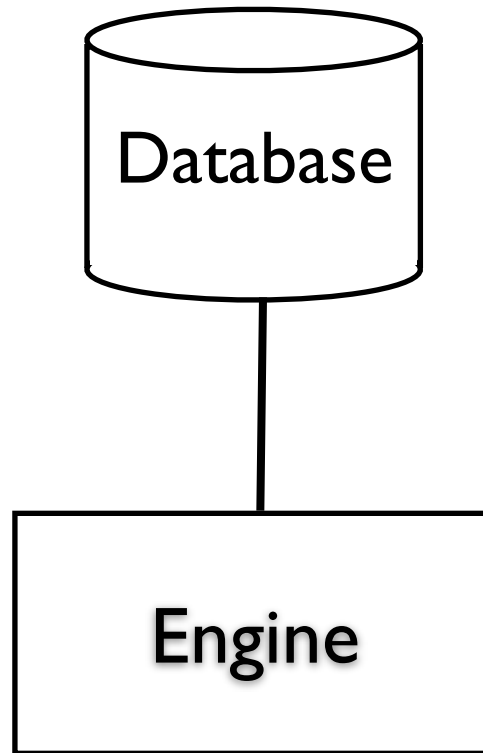
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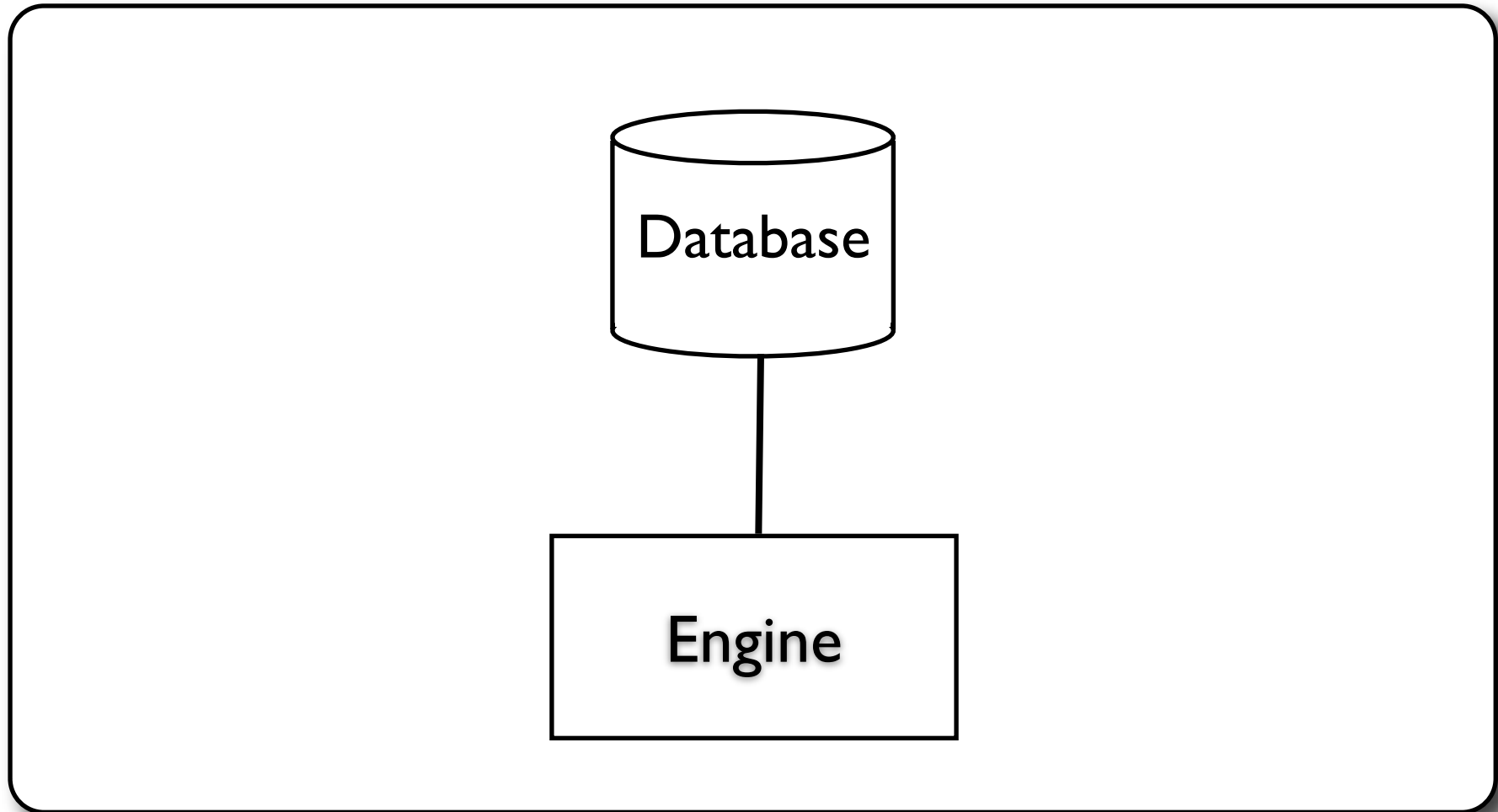


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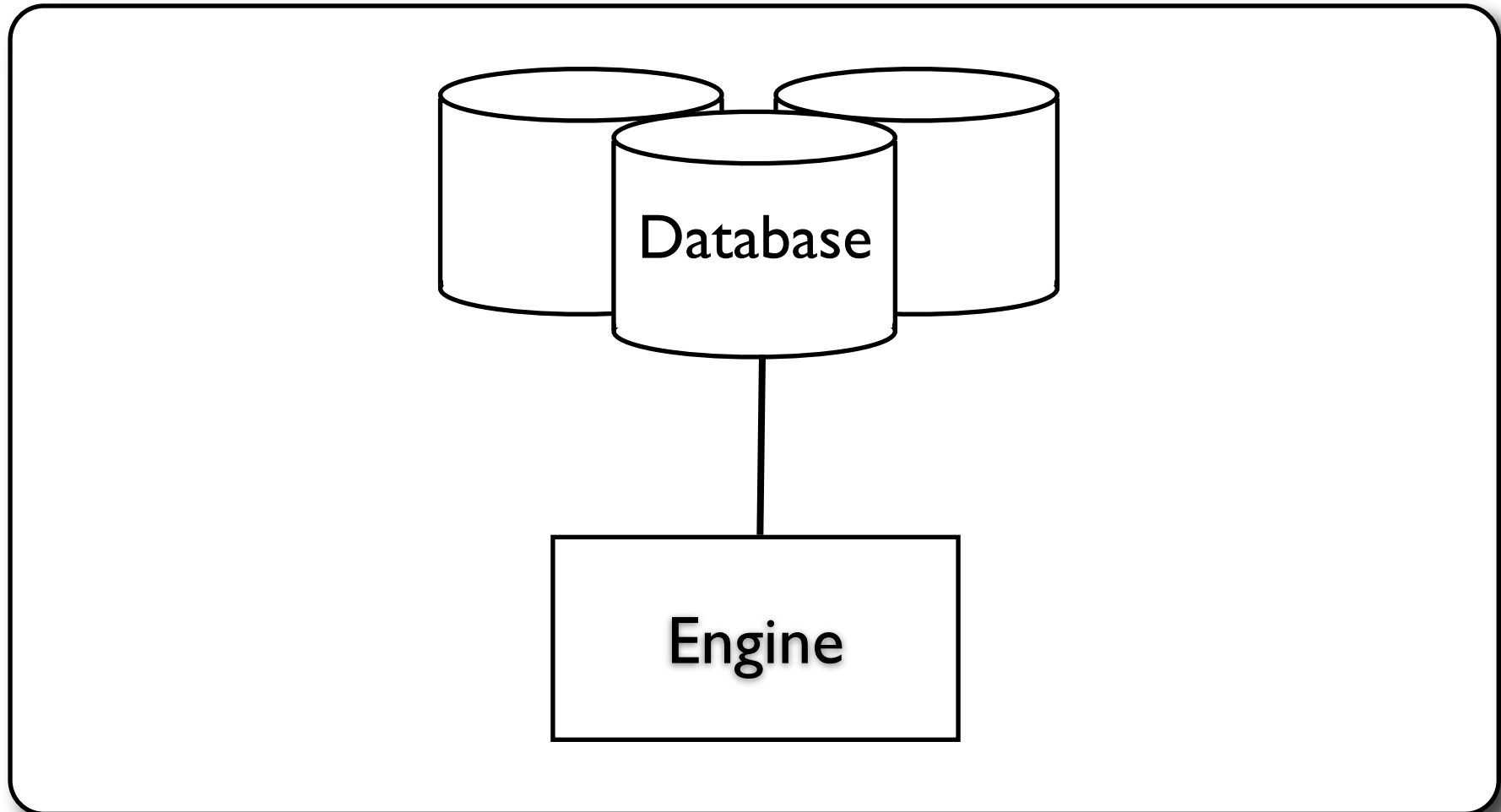
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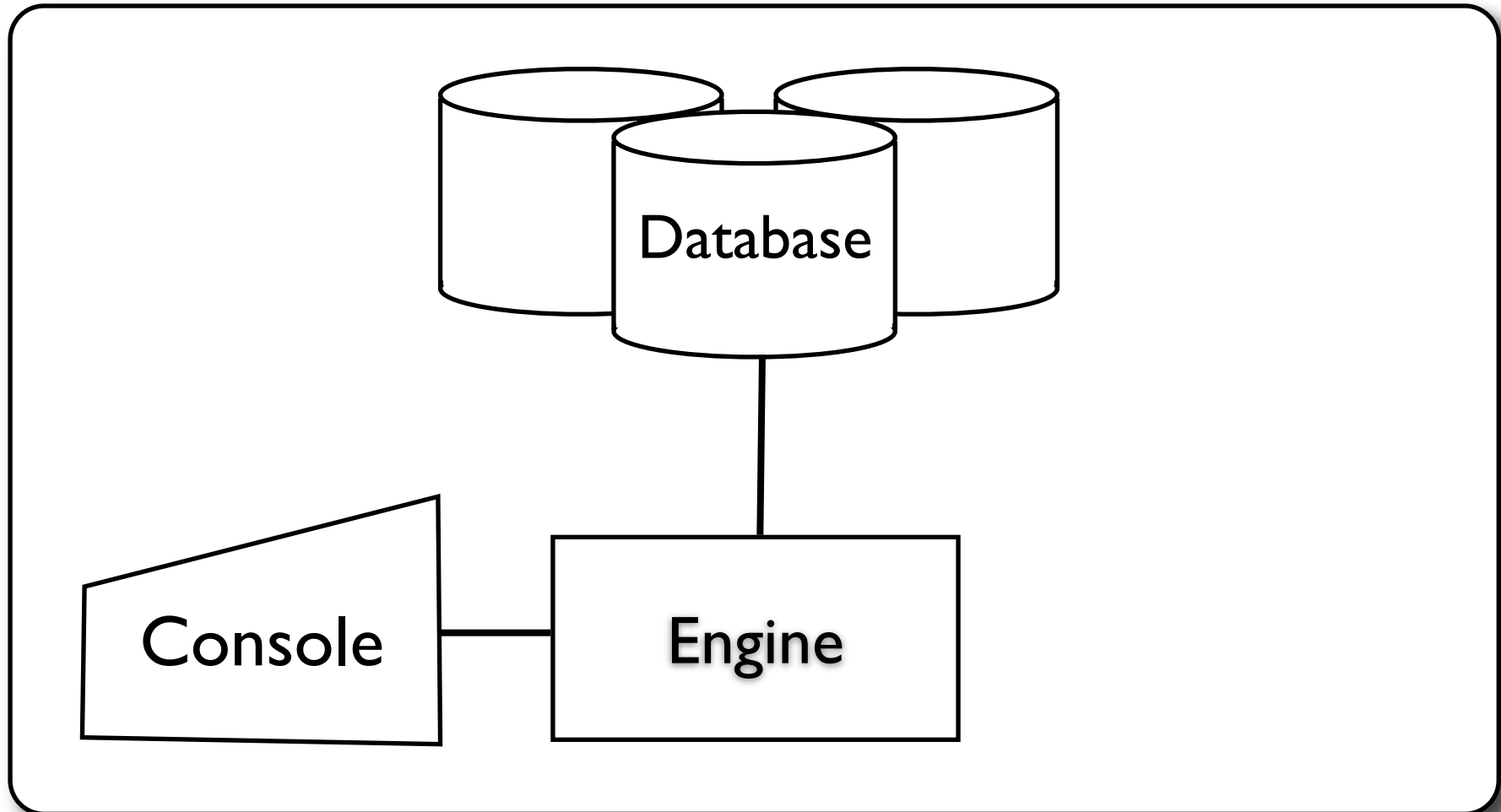
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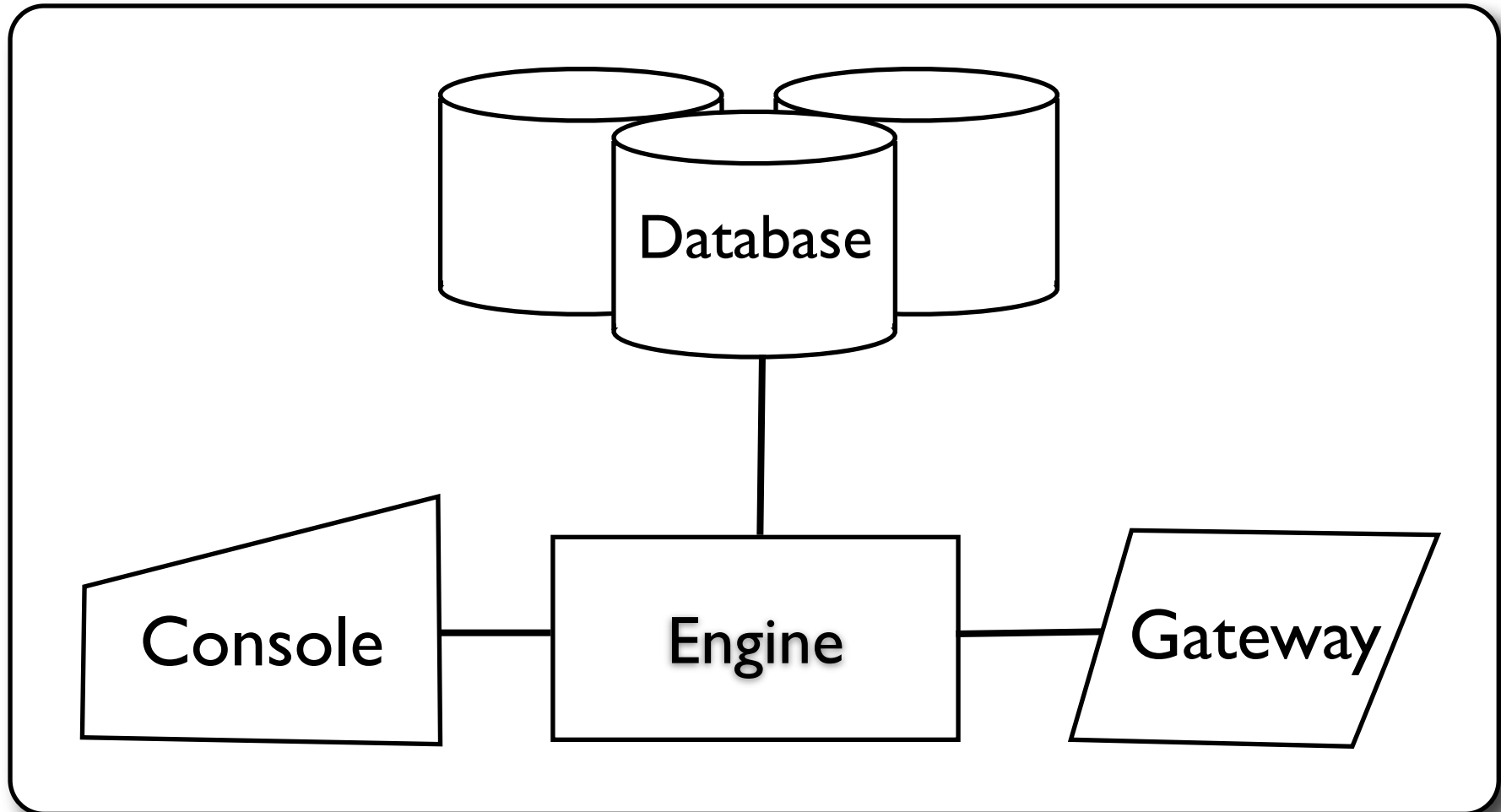


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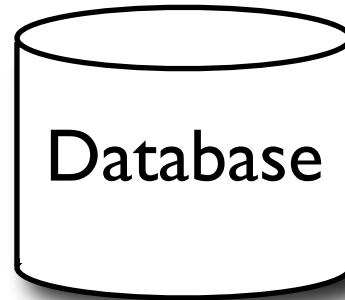




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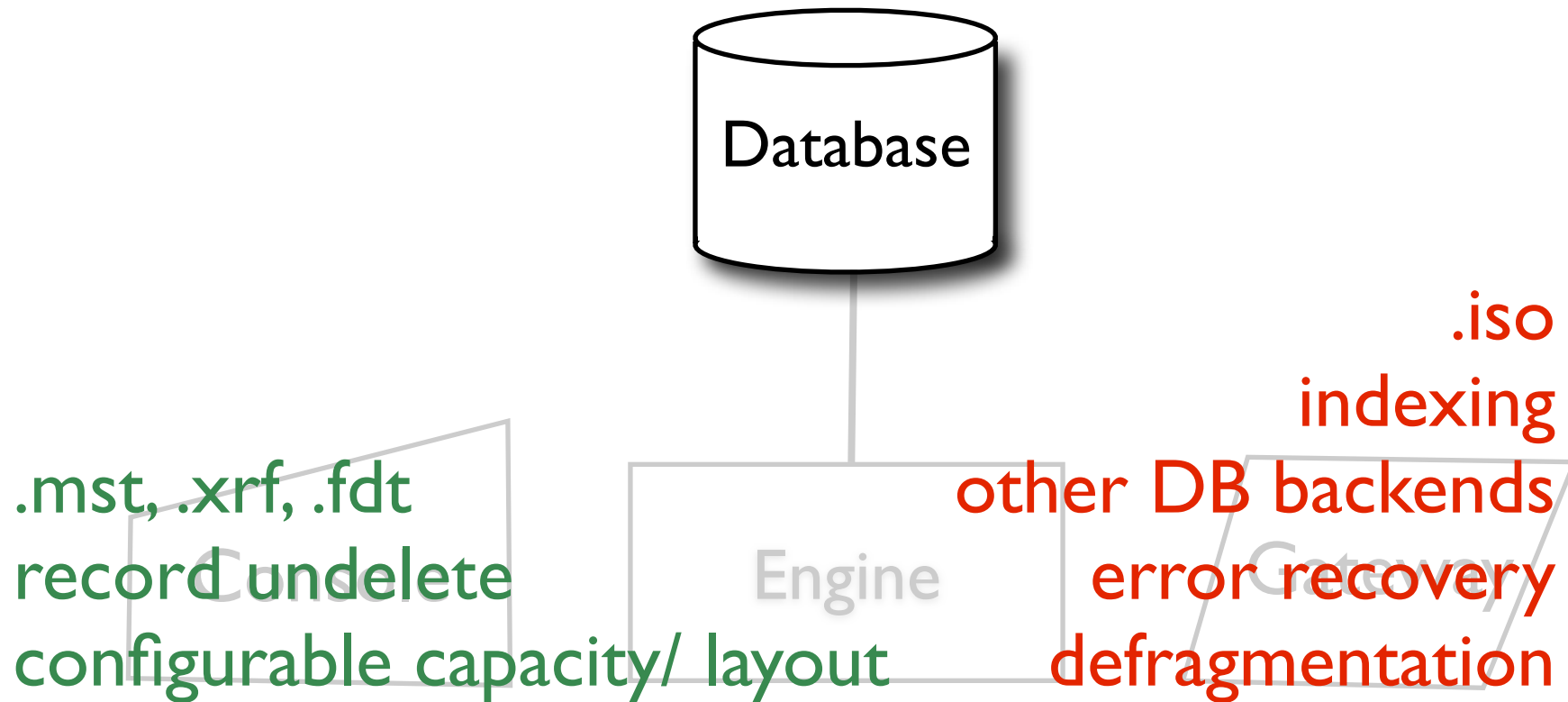
# Database Status



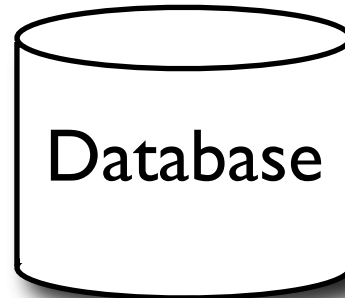
.mst, .xrf, .fdt  
record undelete  
configurable capacity/ layout

.iso  
indexing  
other DB backends  
error recovery  
defragmentation

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# Database Status



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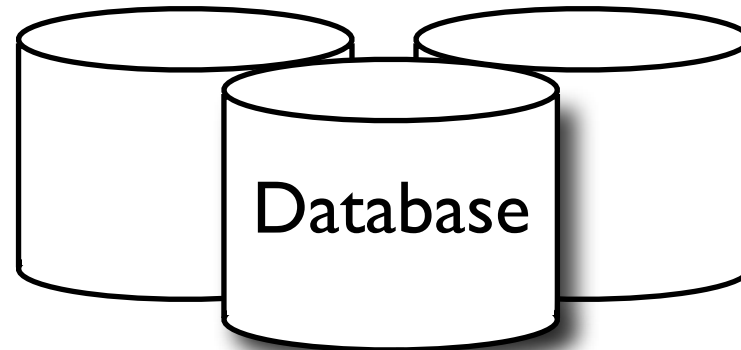
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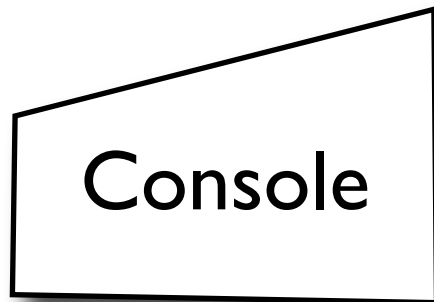
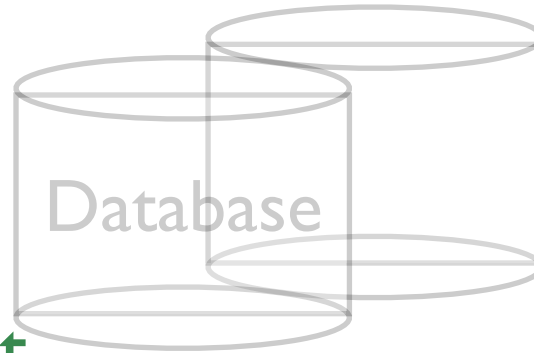
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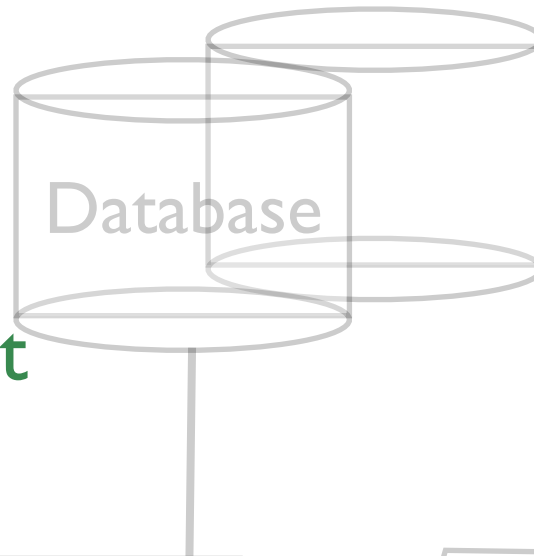
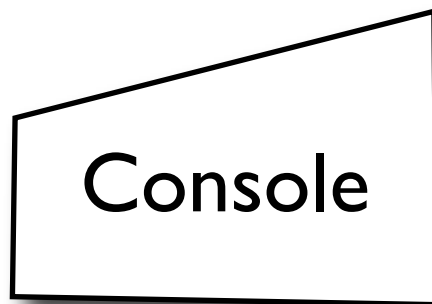
# Console Status

command completion  
command history  
syntax highlight  
O.S. integration  
task automation support  
embedded help



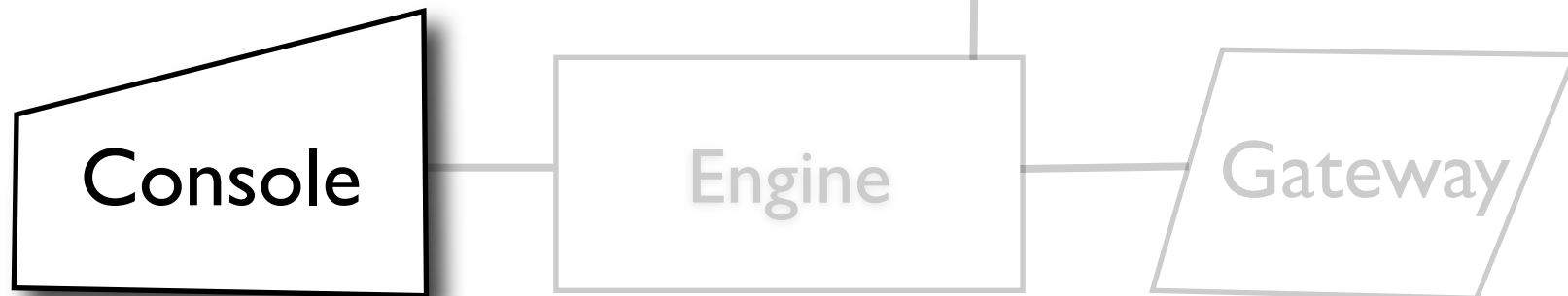
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# Engine Status

UNICODE

i18n

formatting language 76%

isis → object model

cascaded configuration

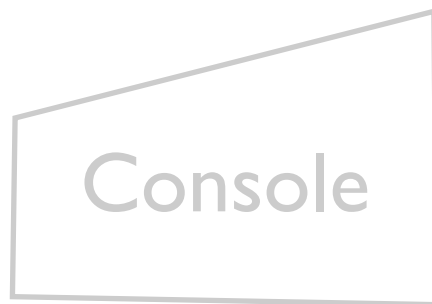
new concept: Collections

generic database model

optimizations

formatting language 24%

IsisScript



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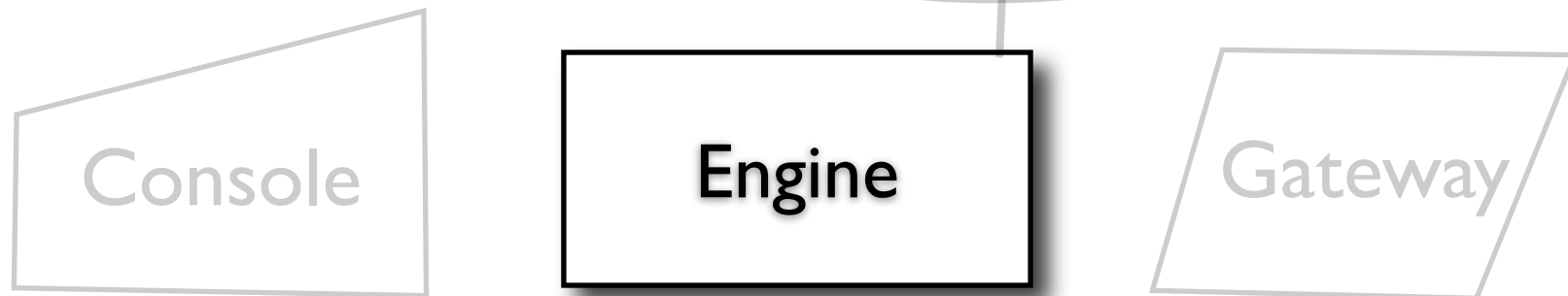
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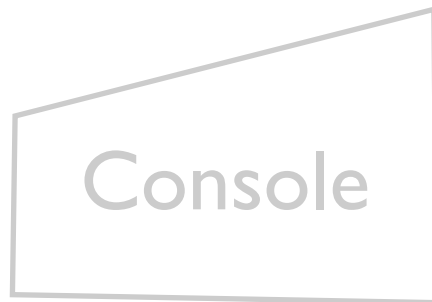
IsisScript



# Gateway Status

SSH Remote Console  
HTML interface  
HTTP Restful API  
XML-RCP API

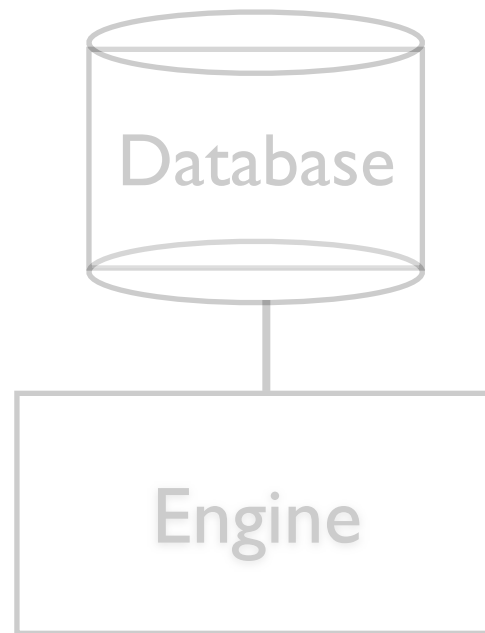
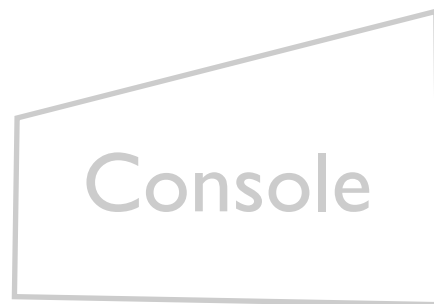
WINISIS-like HTML interface  
OAI-PMH support  
JSON API  
WebDAV API  
SOAP/WSDL API  
RSS support



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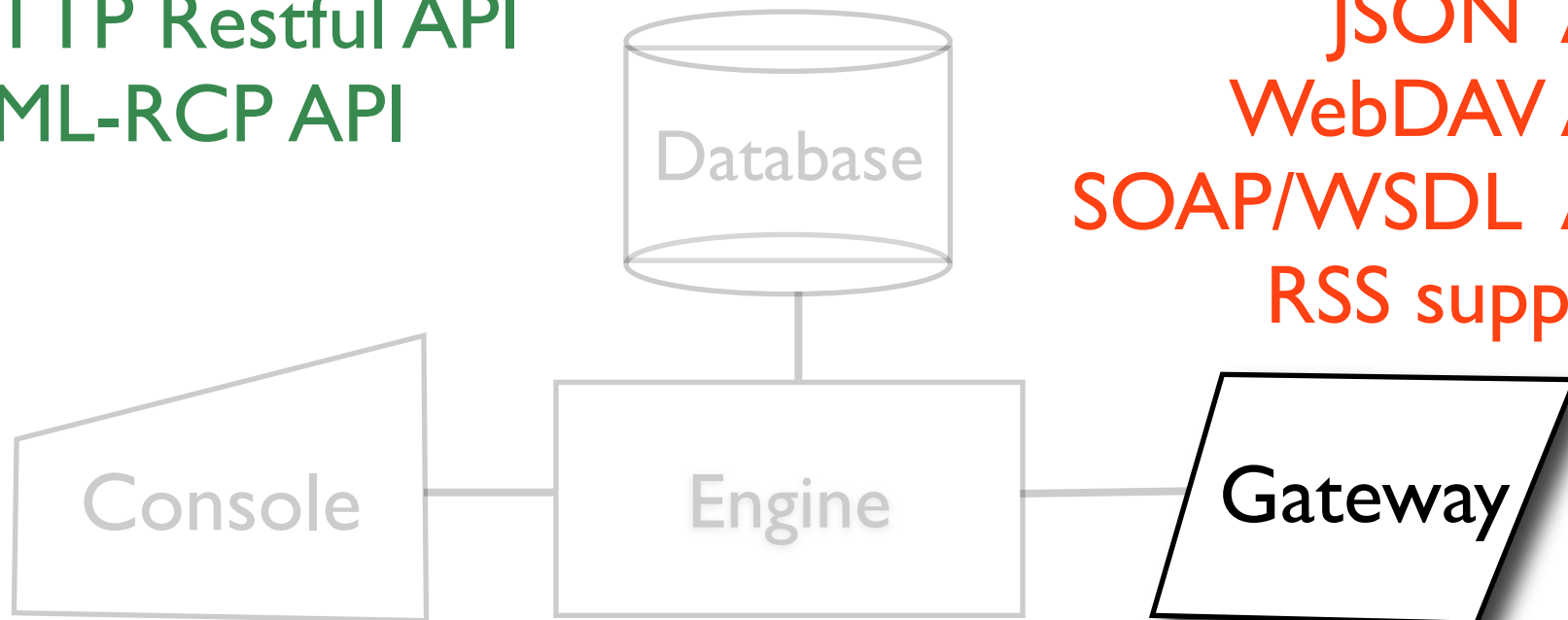
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RSS support



# Community Resources

## **Mailing lists**

[isisnbp-users@listas.bireme.br](mailto:isisnbp-users@listas.bireme.br)

[isisnbp-devel@listas.bireme.br](mailto:isisnbp-devel@listas.bireme.br)

## **Project Web Site (Trac)**

<http://reddes.bvsaude.org/projects/isisnbp>

- Wiki
- Subversion
- Documentation (under construction)
- Patches

# Acknowledgements

- BIRME/PAHO/WHO
- Unesco
- GPr Sistemas
- ISIS-NBP Team
- External collaborators



Abel L. Packer

João Chaves Jr

Adalberto Tardelli

Renato Murasaki

Ernesto Spinak

Rodrigo Senra

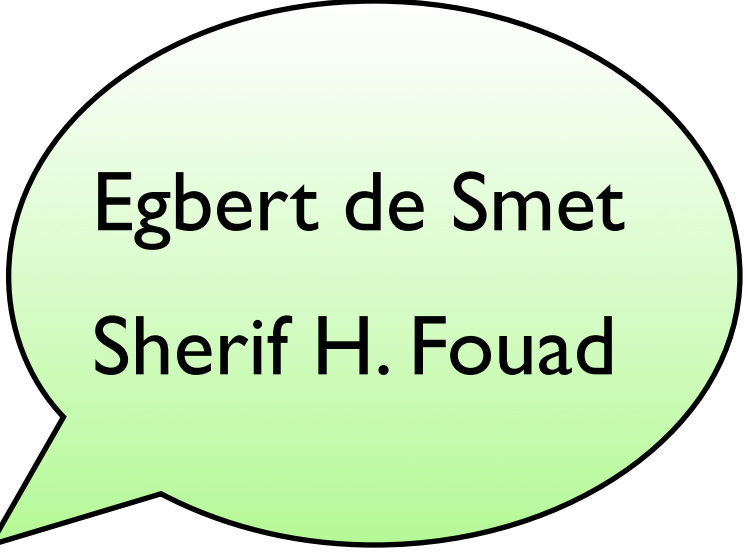
Francisco José Lopes

Heitor Barbieri

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Egbert de Smet  
Sherif H. Fouad

**Rodrigo Dias Arruda Senra**

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Obrigado a todos  
pela atenção.

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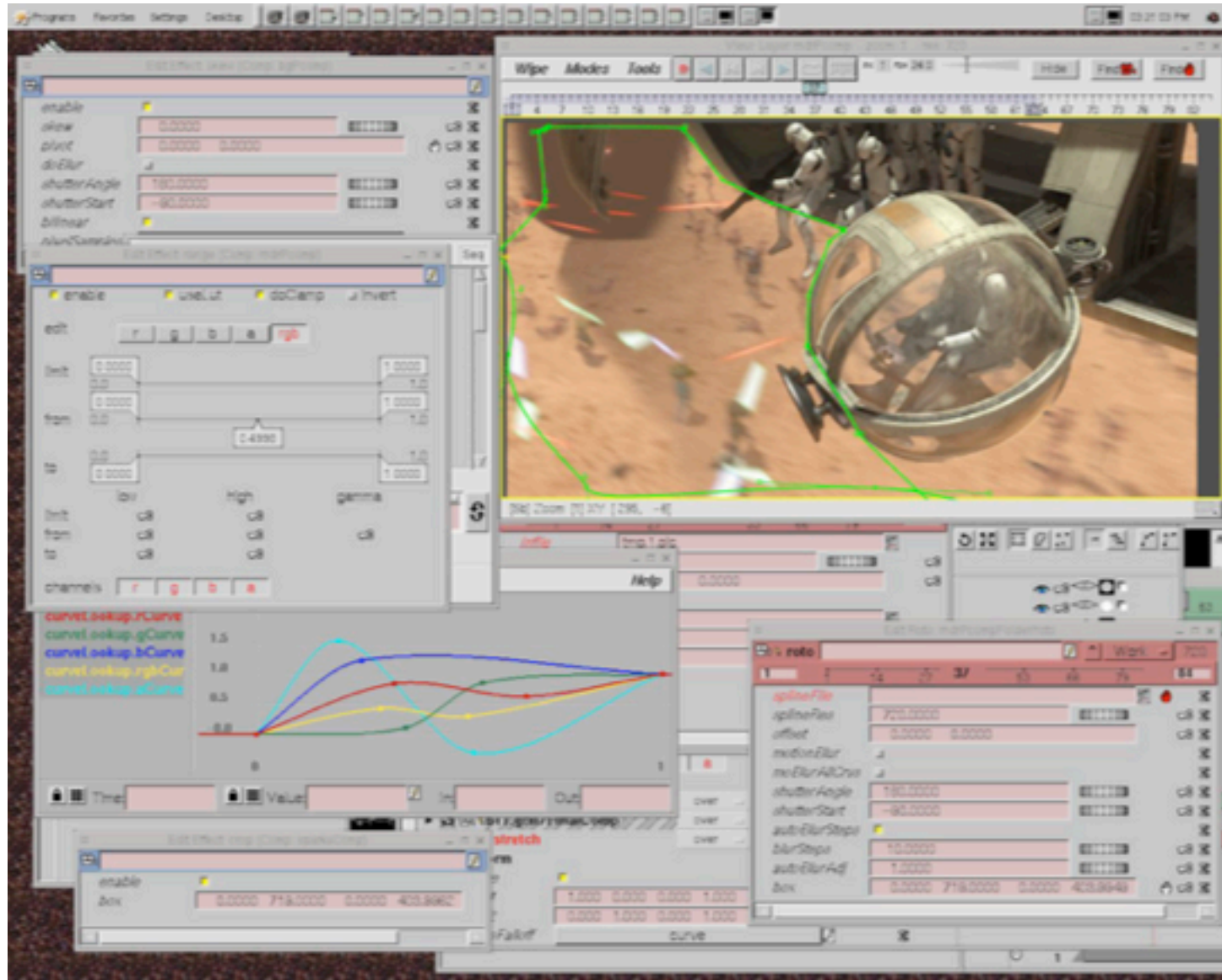
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# Who is using Python ?



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# Python is ...

- **general purpose** Programming Language
- focused on **developer productivity**
- **multi-platform** and **multi-paradigm**
- **rich**: batteries included + 3rd party extensions
- truly **floss** software
- **easy** to extend and embed
- **mature** (created in 1989, released 1991)