



# Università degli Studi di Napoli Federico II



## Corso di Laurea in Informatica

A.A. 2009/10

# DAME-KappA: integrazione del framework KNIME nella Suite DAME

Tutor accademico: Dott.ssa Anna Corazza

Candidato: Esposito Pamela

Tutor aziendale: Dott. Massimo Brescia

Matricola: 566/372

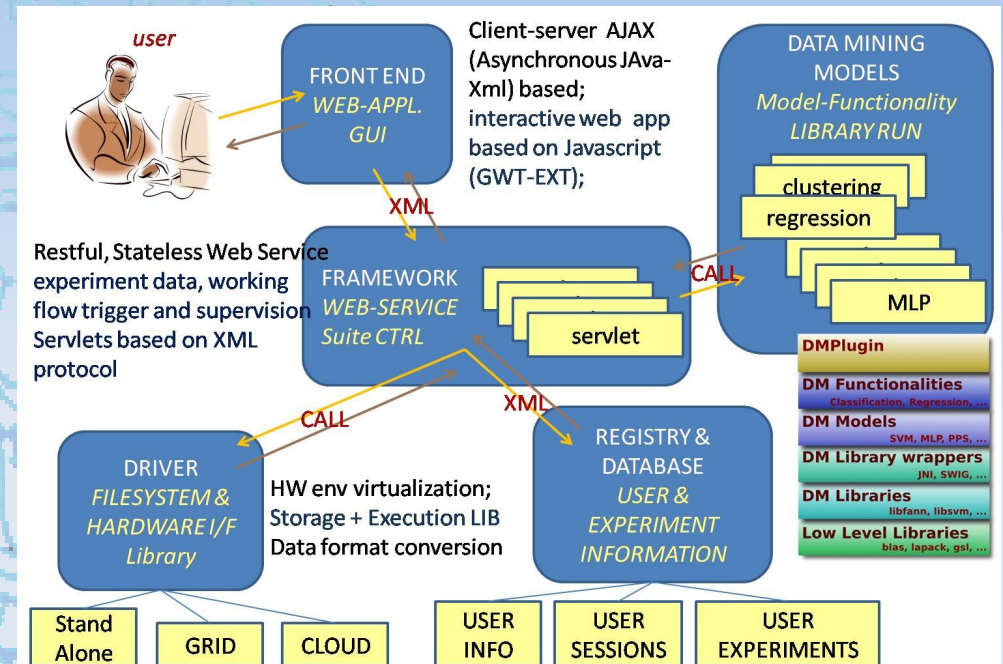
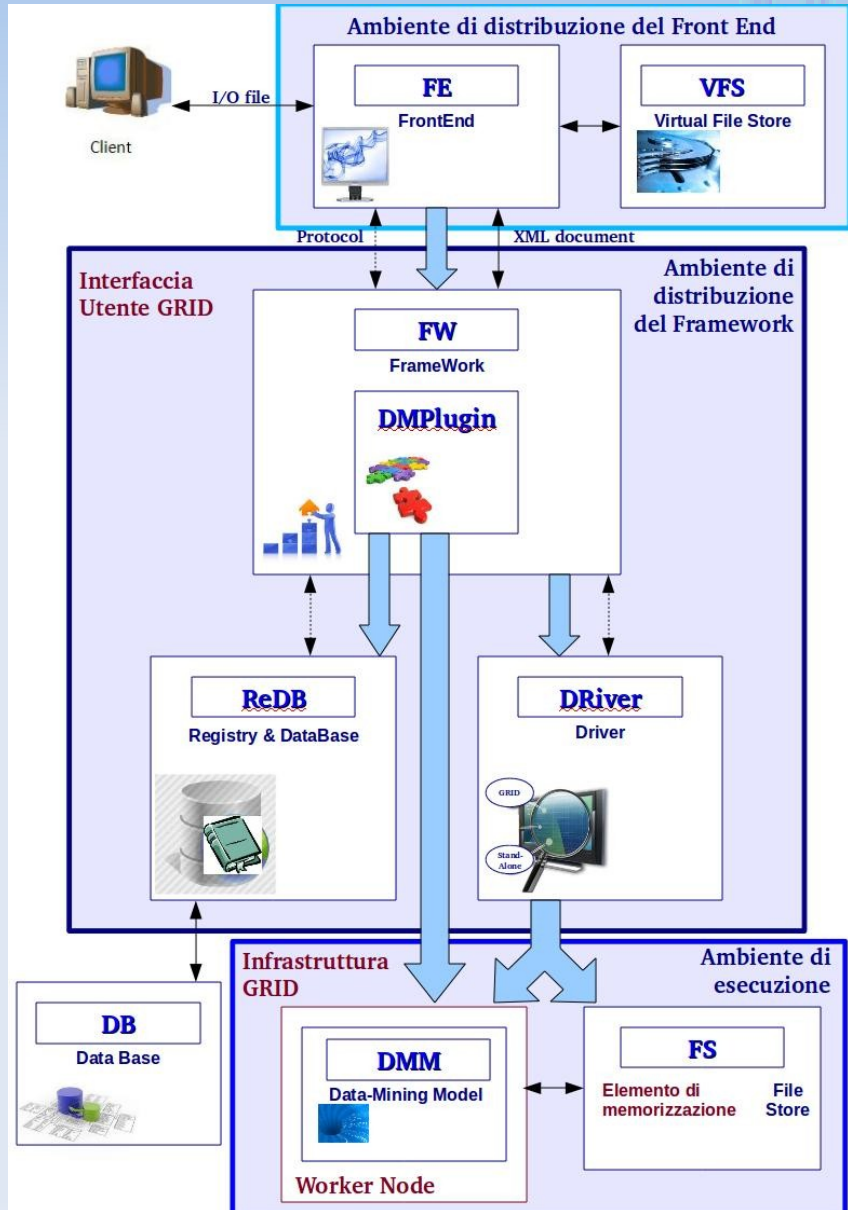


SCOPE

EUROVO  
AIDA  
International for Data Access



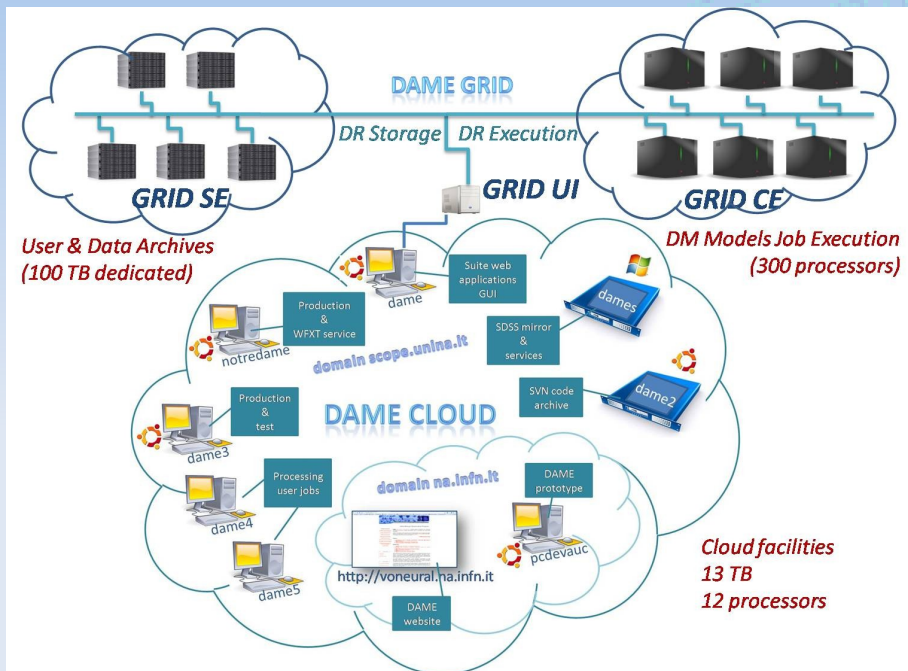
# IL PROGETTO Data Mining & Exploration (DAME)



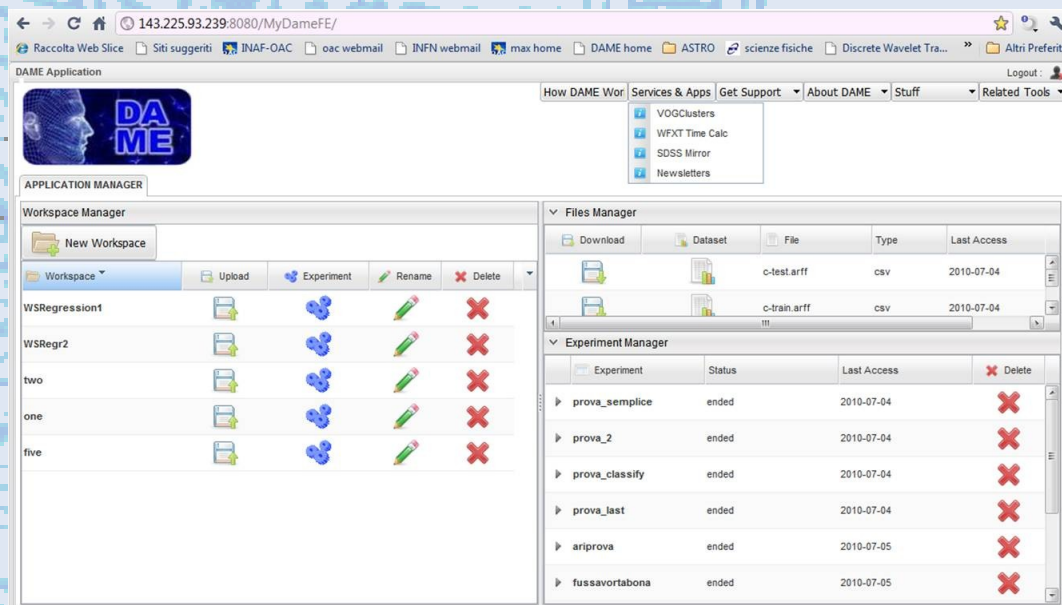
# Architettura



# IL PROGETTO Data Mining & Exploration (DAME)



# GUI





The screenshot displays the KNIME software interface. The main workspace shows a workflow with the following nodes and connections:

- StilReader (Node 1)** connects to **k-Means (Node 2)**.
- k-Means (Node 2)** connects to **StilWriters (Node 5)**.
- k-Means (Node 2)** connects to **PMML Writer (Node 4)**.

The **StilWriters (Node 5)** node is highlighted, and its description pane on the right shows an error message:

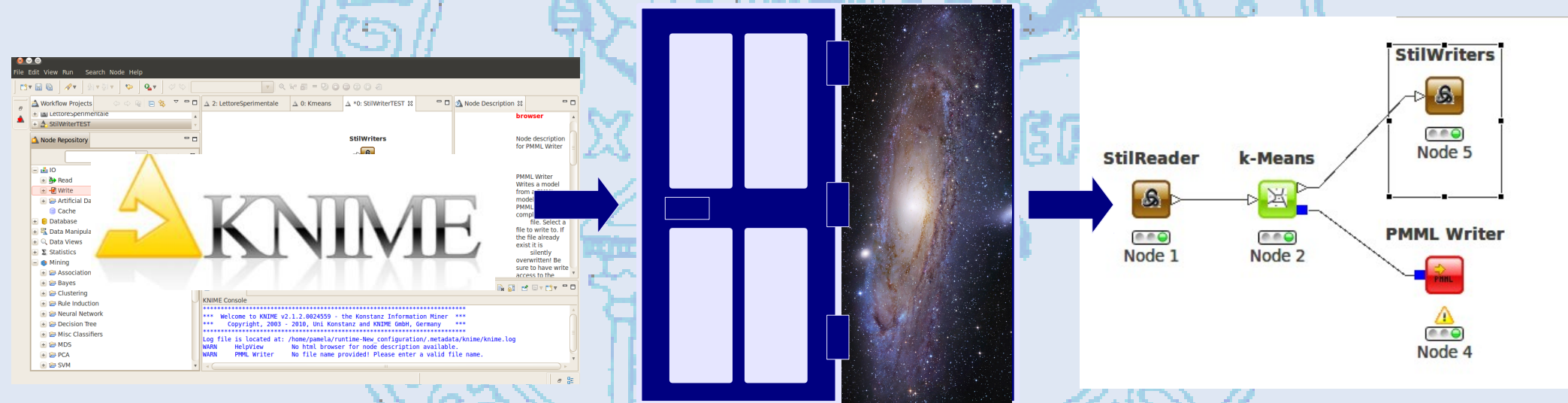
**The operating systems web browser could not be found! Using fall back (text-only) browser back (text-only) browser**

The **Console** pane at the bottom shows the following log output:

```
KNIME Console
WARN    PMML Writer    No file name provided! Please enter a valid file name.
WARN    PMML Writer    No file name provided! Please enter a valid file name.
ERROR   StilWriters     Execute failed: ("NullPointerException"): null
WARN    PMML Writer    File exists and will be overwritten
WARN    PMML Writer    File exists and will be overwritten
WARN    PMML Writer    File exists and will be overwritten
```



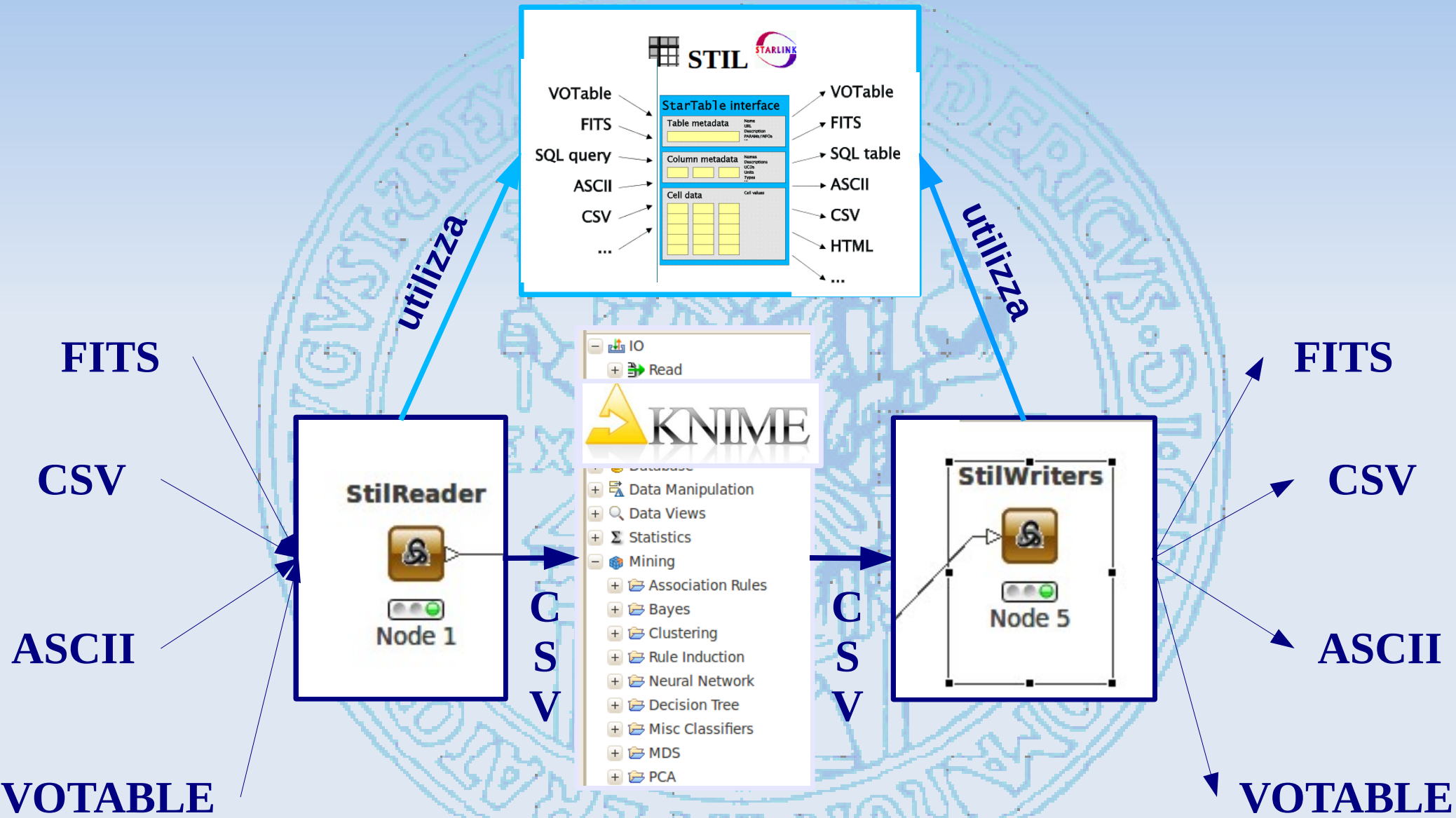
## KNIME vs Comunità scientifica





# DAME-Kappa – I nodi KNIME

## I/O astronomico

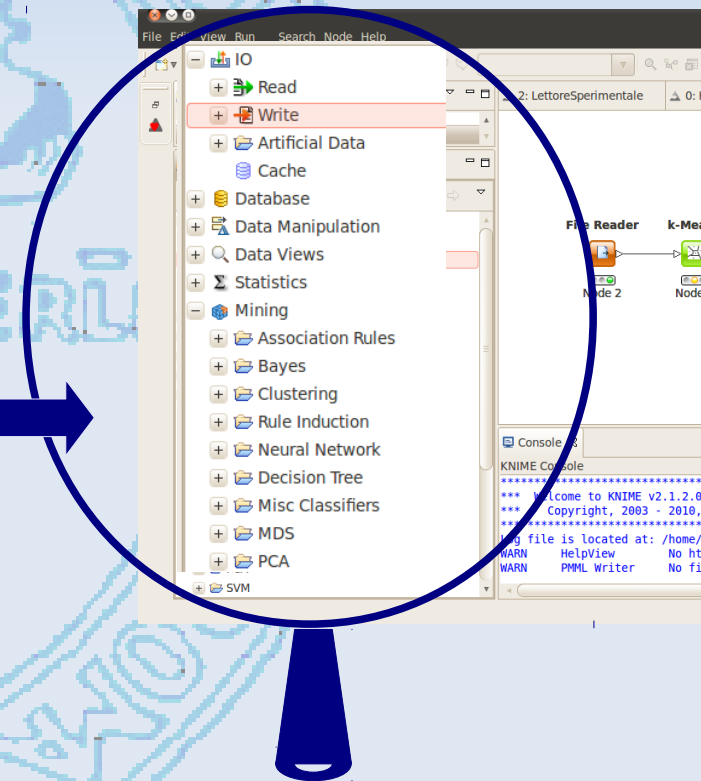
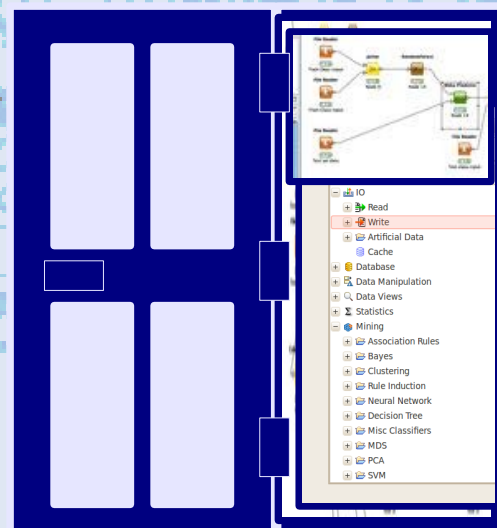
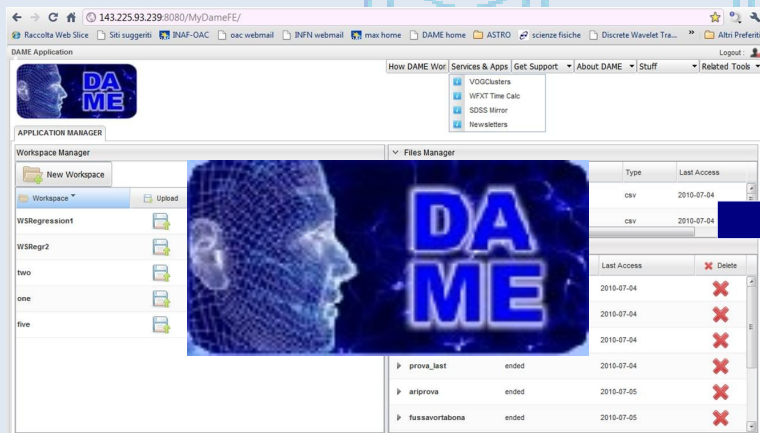




# KNIME applications Assembly in DAME (DAME-KappA)

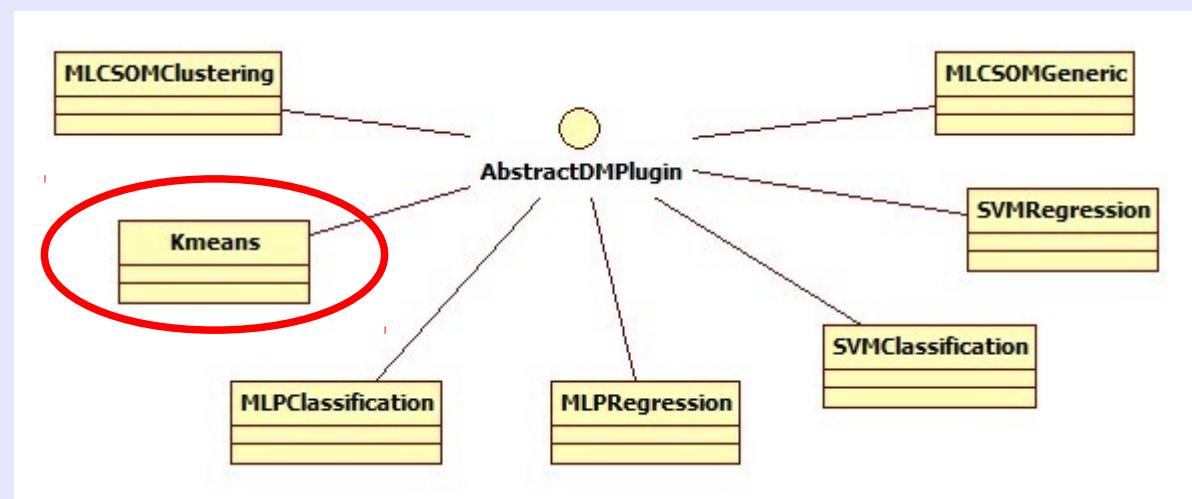
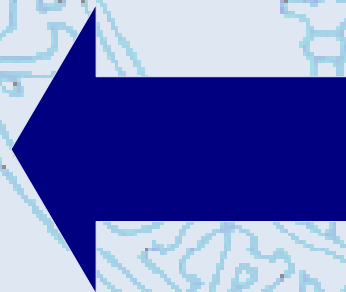
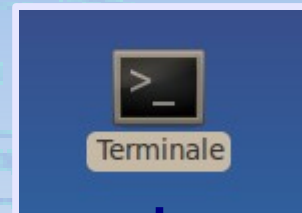
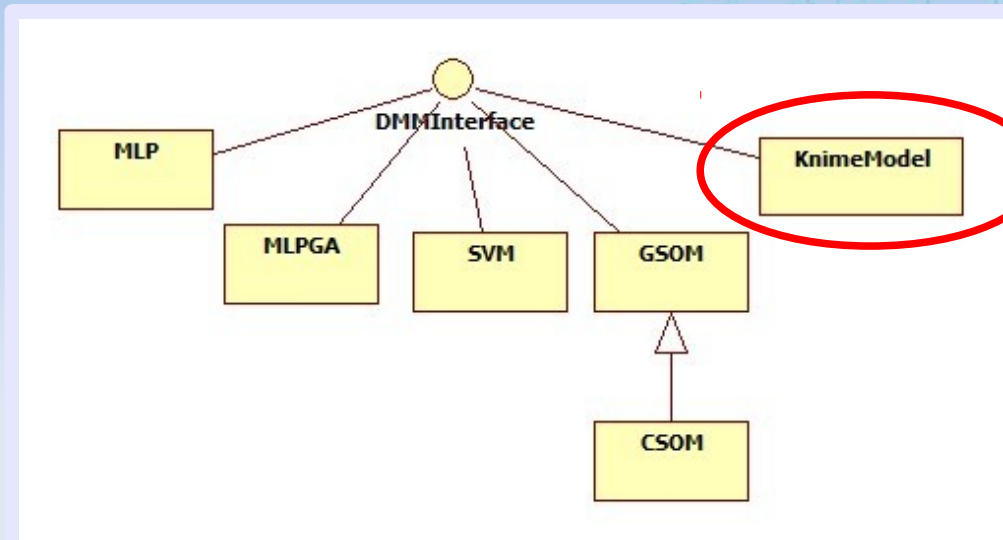


## DAME si arricchisce





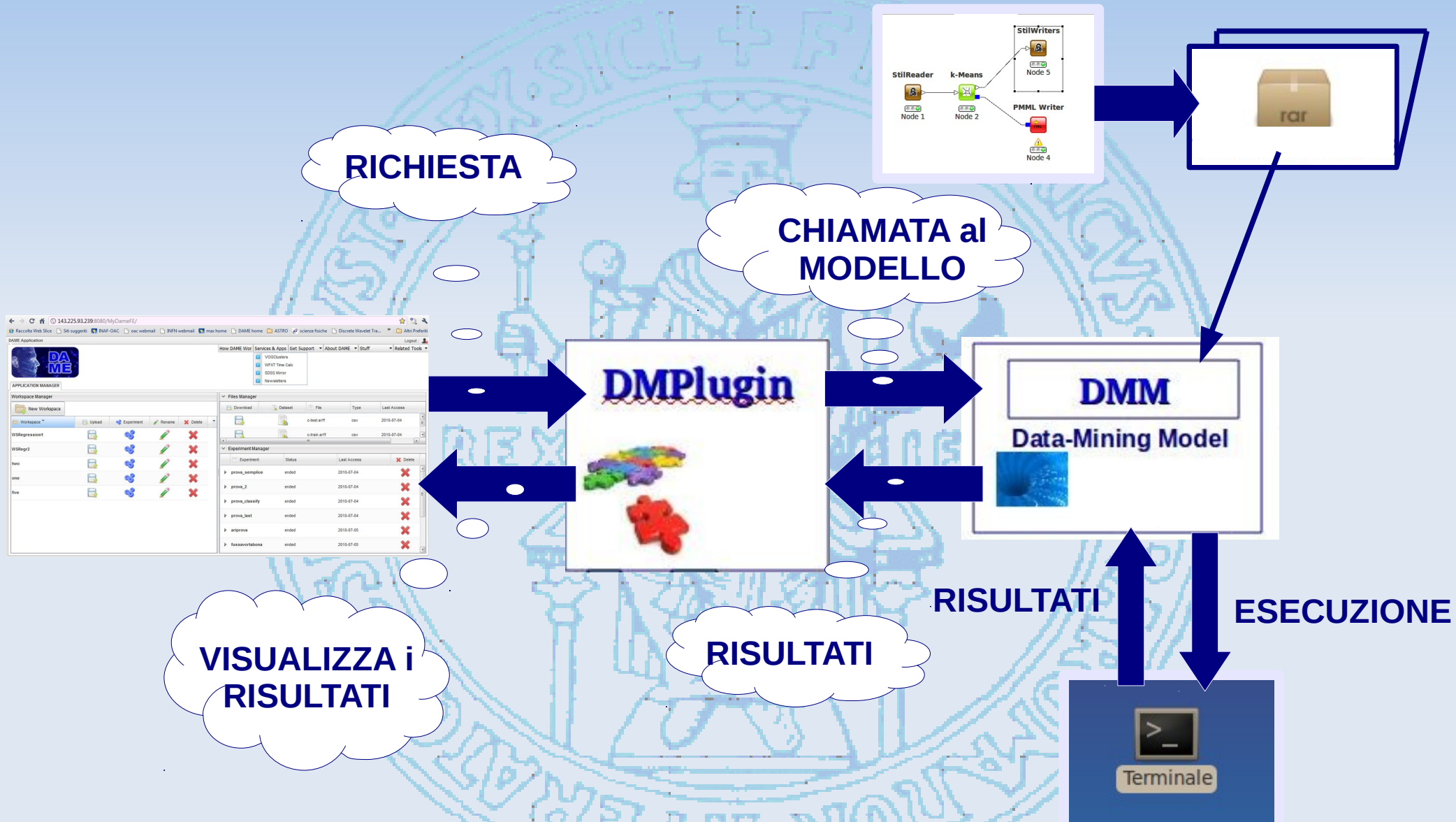
# DAME-Kappa - Il modello e il DMPlugin







# DAME-KappaA Kmeans





# DAME-KappaA

## La fase di testing



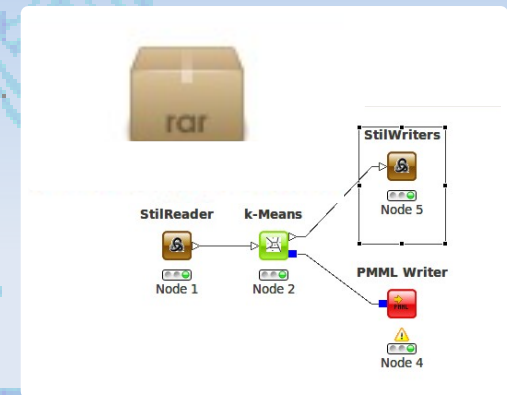
### INPUT

```

prova.votable (~\Tirocinio INAF/Dataset Files/Other) - gedit
File Modifica Visualizza Cerca Strumenti Documenti Aiuto
[Icons]
prova.votable x
<DATA>
<TABLEDATA>
<TR>
<TD>4.400000095367432</TD>
<TD>18.399999618530273</TD>
<TD>0.0</TD>
<TD>1</TD>
</TR>
<TR>
<TD>4.800000101327896</TD>
<TD>16.881999969482422</TD>
<TD>0.7601885795593262</TD>
<TD>5</TD>
</TR>
<TR>
<TD>5.000000104308128</TD>
<TD>15.829017639160156</TD>
<TD>0.6786062121391296</TD>
<TD>61</TD>
</TR>

```

|            |    |
|------------|----|
| NCluster   | 3  |
| Niteration | 20 |



### OUTPUT

```

*L.log (~\Scrivania) - gedit
File Modifica Visualizza Cerca Strumenti Documenti Aiuto
[Icons]
e.log x *L.log x
Workflow Manager 0:2: EXECUTED (start)
StilReader 0:2:1 (EXECUTED) |
k-Means 0:2:2 (EXECUTED)
StilWriter 0:2:3 (EXECUTED)
PMML Writer (BETA) 0:2:4 (EXECUTED)
Workflow Manager 0:2(end)
Finished in 0 secs (572ms)

```

```

ciao.csv (~) - gedit
File Modifica Visualizza Cerca Strumenti Documenti Aiuto
[Icons]
ciao.csv x
INTEGRATED SIGNAL,MAGNITUDE,UNCERTAINTY,NUMBER OF OBJECTS,cluster
4.400000095367432,18.399999618530273,0.0,1,cluster_0
4.800000101327896,16.881999969482422,0.7601885795593262,5,cluster_0
5.000000104308128,15.829017639160156,0.6786062121391296,61,cluster_0
5.200000107288361,15.042485237121582,0.5575485825538635,336,cluster_2
5.400000110268593,14.198537826538086,0.5564891695976257,684,cluster_2
5.600000113248825,13.05952262878418,0.5949699282646179,554,cluster_2
5.800000116229057,12.028757095336914,0.5666143298149109,498,cluster_2
6.0000001192092896,11.153807640075684,0.5756695866584778,383,cluster_2
6.200000122189522,10.292903900146484,0.5254236459732056,295,cluster_2
6.400000125169754,9.54589557647705,0.46360471844673157,302,cluster_2
6.600000128149986,9.022472381591797,0.4045702815055847,174,cluster_1
6.8000001311302185,8.637649536132812,0.4125622510910034,113,cluster_1
7.000000134110451,8.206154823303223,0.4055108428001404,39,cluster_0
7.200000137090683,7.692332744598389,0.461203932762146,9,cluster_0
7.400000140070915,7.375,0.0,1,cluster_0
7.6000001430511475,6.314000129699707,0.0,1,cluster_0

```



# Conclusioni e Sviluppi Futuri



## RISULTATI:

L'integrazione di KNIME in DAME

## VANTAGGI:

La possibilità di utilizzare KNIME da parte della comunità astronomica;  
L'arricchimento del Suite DAME con una grande quantità di modelli.

## SVILUPPI FUTURI: