



Who is using SPENVIS?

M. Kruglanski
Belgian Institute for Space Aeronomy



Who is using SPENVIS?

- Questions:
 - How many users?
 - Why do they use SPENVIS?
 - What kind of use?
 - Which models? ...
- Purpose of the question
 - Offering a better service
 - Guiding new developments
- How to answer?
 - Questionnaire
 - ← only a few reactions
 - Meeting some users
 - reliability/validity?
 - Web Access Statistics

e.g. June 2007:
Market analysis
by Rhea System

Market Analysis of SPENVIS

“The main SPENVIS users are universities and research centres (49%) and commercial ones (37%)”.



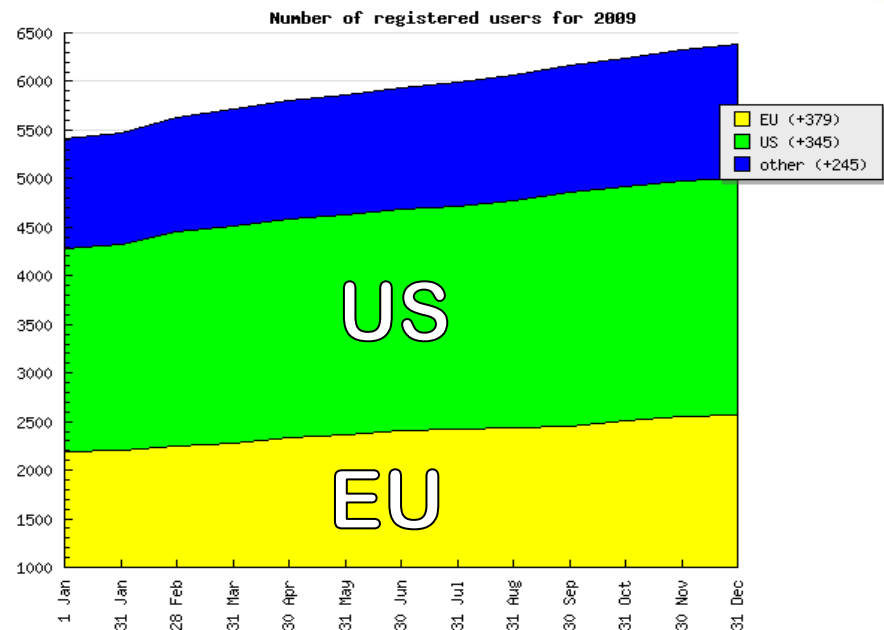
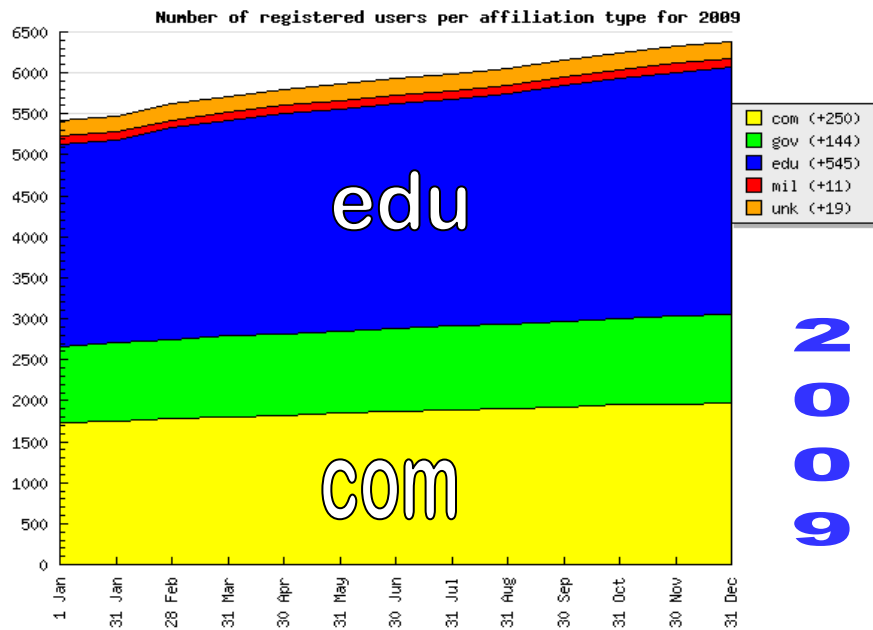
Rhea System S.A.
New Tech Center,
Avenue Einstein 29,
B-1348 Louvain-la-Neuve,
Belgium

TEL : + 32 10 48 72 50
FAX : + 32 10 45 25 07
www.rheagroup.com

> 3000 users contacted
→ 48 answers only

Web access statistics

- Since 2006: analysis of access log, including model runs → daily sampling
- Today:
 - 6992 registered users BUT 1252 "inactive" users

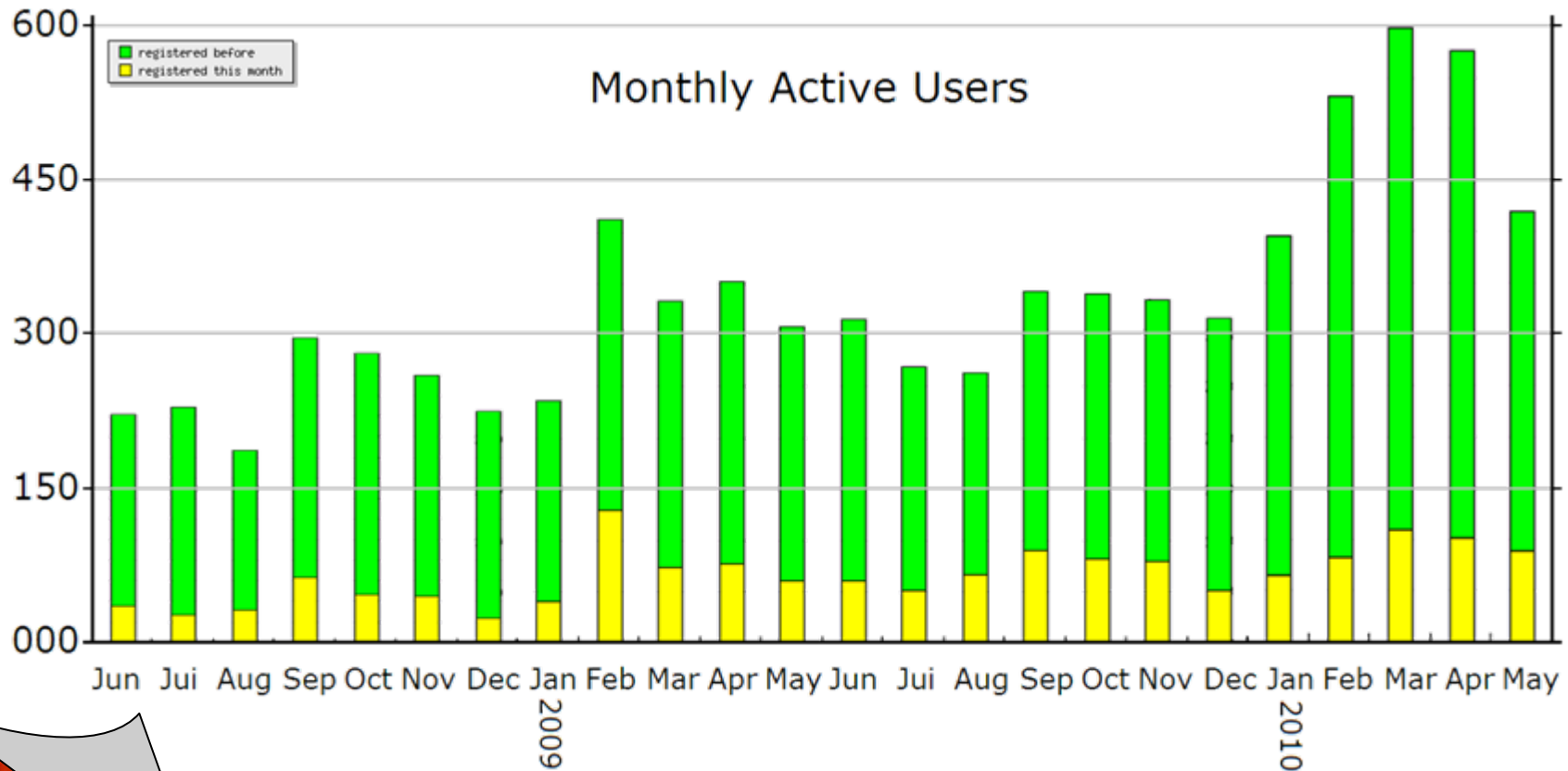


9002

Registered users ≠ Real users

(today) $6992 - 1252 = 5740$ "active" users

- Each month: between 300 and 450 users
about 15% = newly registered

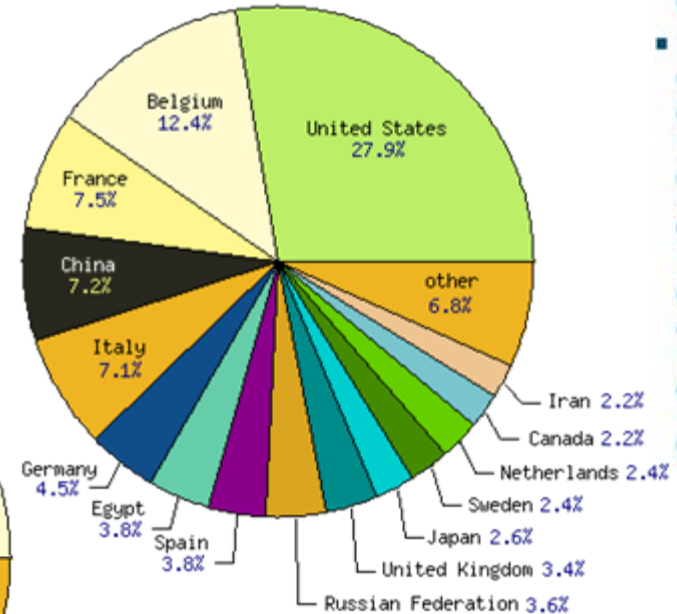


SPENVIS
User's
Workshop

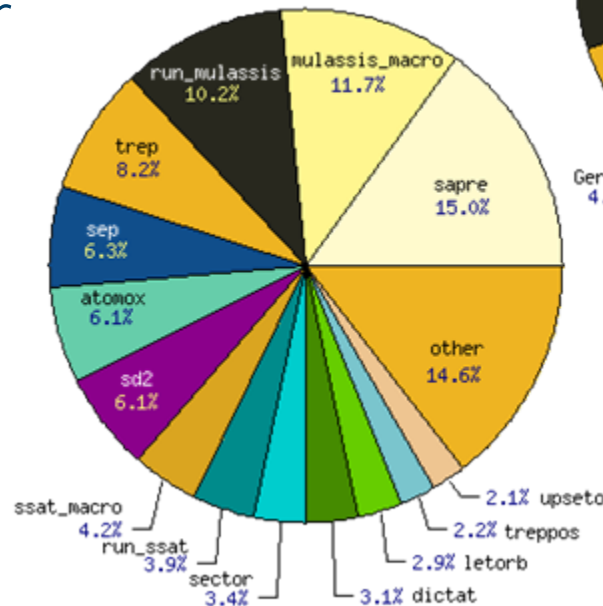
Statistics of May 2010 (1/4)

- 420 users, 10688 model runs, 75551 accesses
- User accesses:
 - 45% from Europe
 - 30% from United States
- Model runs:
 - Orbit generator
 - Mulassis
 - Radiation belts
 - Solar protons
 - Shieldose-2

Distribution of user access per country for May 2010



Distribution of model runs for May 2010

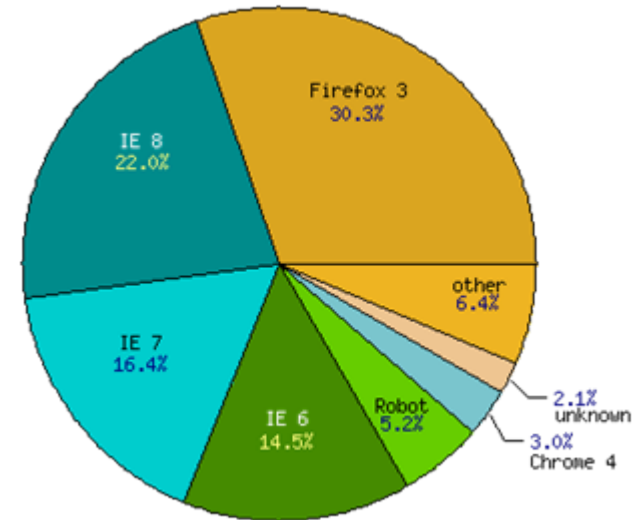


Statistics of May 2010 (2/4)



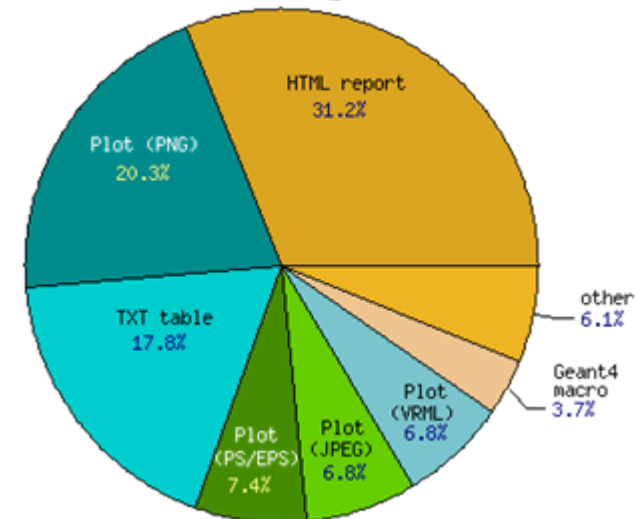
- Web Browsers: Firefox & IE
- Output
 - Plots = 40%
 - Report file = 30%
 - Text table = 20%
 - Geant4 + VRML = 10%

Distribution of webbrowser accesses for May 2010



100% = 397136

Distribution of result page calls for May 2010



- Plots
 - 50% = PNG (Apr)
 - Mulassis = 26% (11%)
 - Orbit generator = 17% (21%)
 - Radiation belts = 10% (19%)
 - Ionizing dose = 8% (9%)
 - Coordinate grid = 6% (4%)

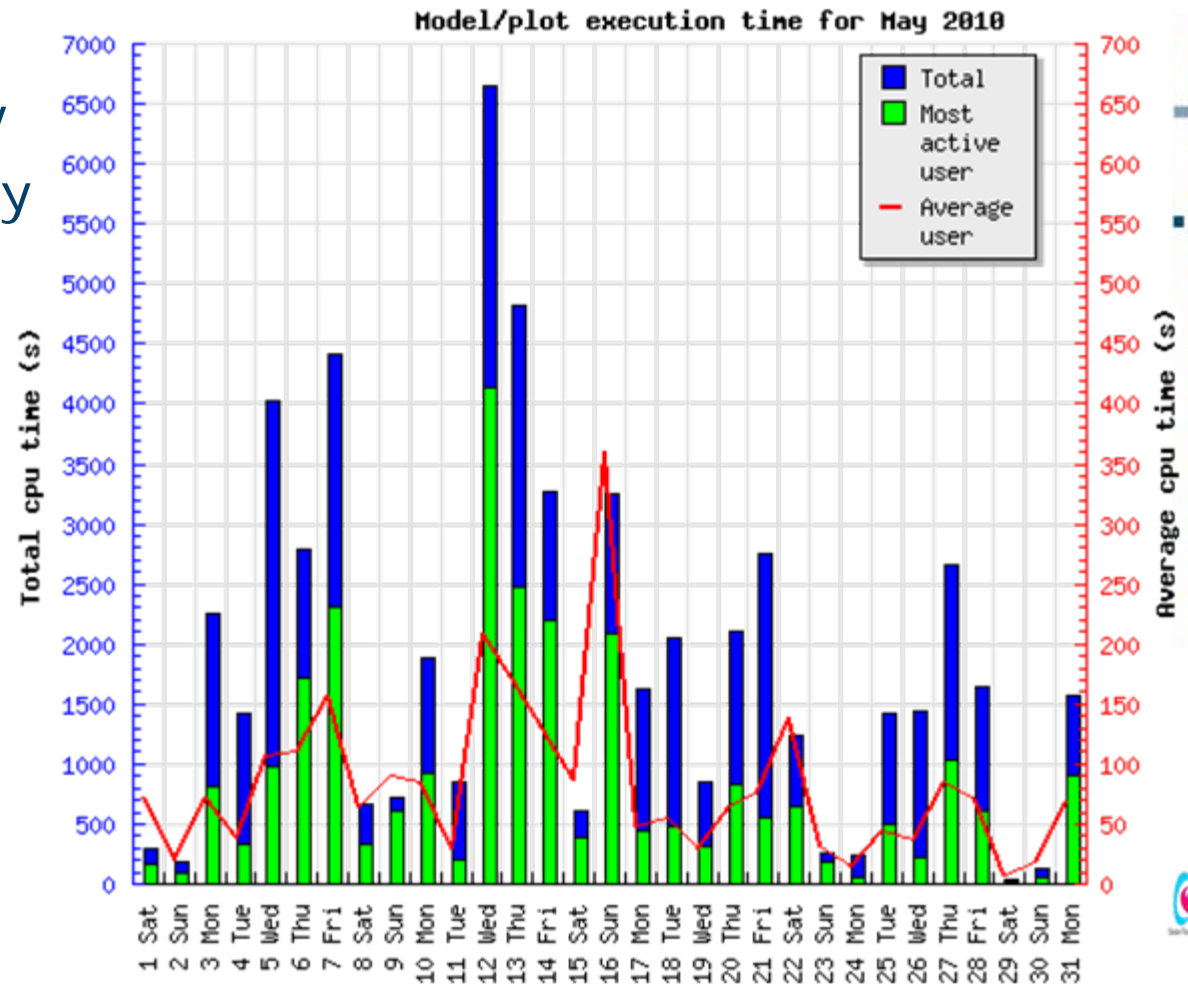


Statistics of May 2010 (3/4)



- CPU time

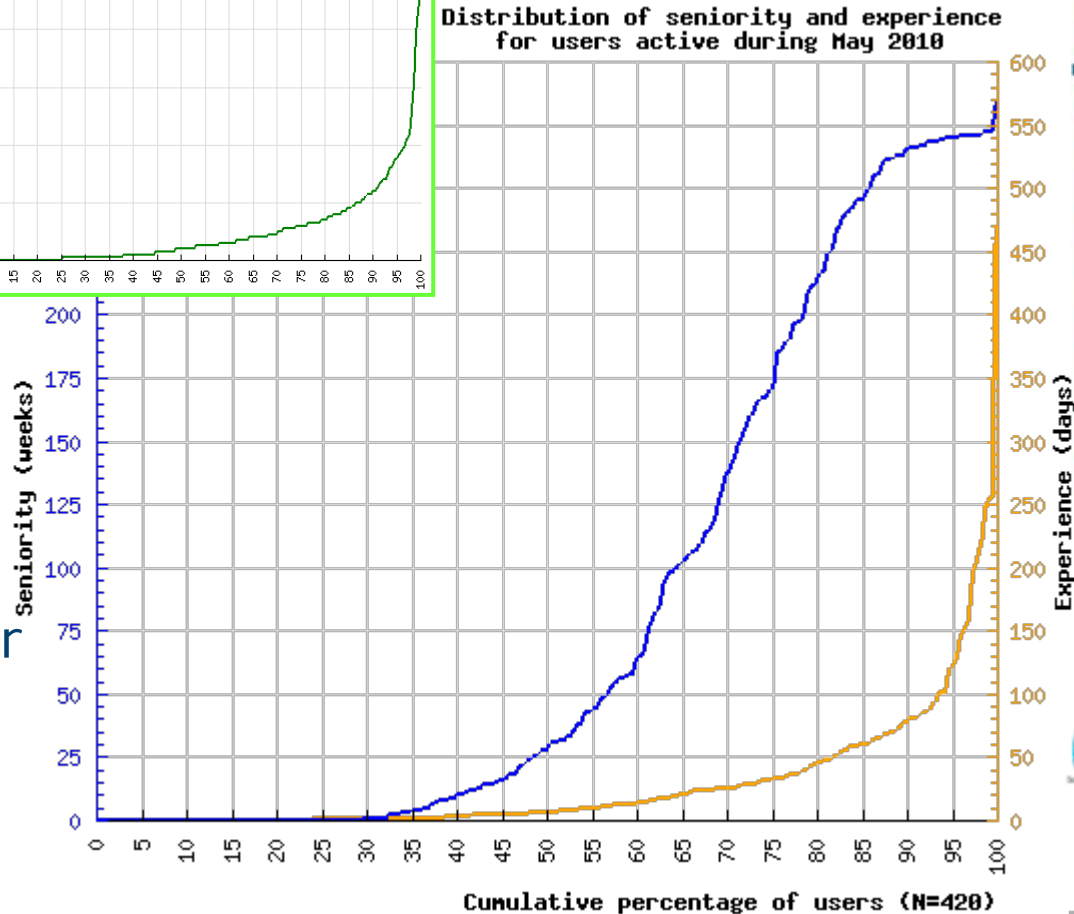
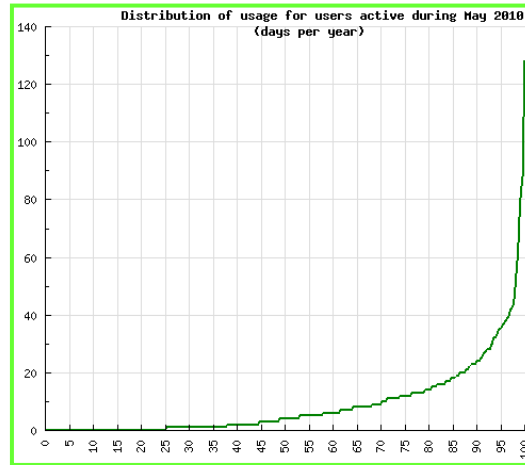
- avg. 31 min/day
- peak < 2 hrs/day
- 1 user = ~50%



Statistics of May 2010 (4/4)



- "Seniority"
 - 35% < 1 month
 - 65% < 1 year
 - 20% > 4 years
- "Experience"
 - 50% < 5 days
 - 80% < 50 days
 - 5% > 110 days
- Usage
 - 70% < 10 days/year
 - 5% > 35 days/year



Lesson from the statistics

- Two populations
 - Short-term users
 - Using SPENVIS few days for a period of ~ 3 months
 - = about 150 people/month or 800 people/year
 - Loyal users
 - Using SPENVIS at least 20 days per year
 - = about 80 people
- Favourite models
 - Model along trajectory
 - Ionizing dose due to radiative environment
 - Single Event Upset rate
 - Atomic oxygen (or atm. densities)
 - Mulassis

Top 20 SPENVIS users



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•	United States Naval Academy	US
•	European Space Research and Technology Centre	NL
•	MacDonald Dettwiler and Associates	CA
•	University College of London	UK
•	University of Surrey	UK
•	Spectrolab	US
•	Isfahan University of Technology	IR
•	Indian Space Research Organisation	IN
•	Surrey Satellite Technology Ltd	UK
•	Yuznoe Design Office	UA
•	Goddard Space Flight Center	US
•	QinetiQ	UK
•	Center for Space Radiations	BE
•	Center for Space Science and Applied Research	CN
•	University of California, Irvine	US
•	National Research Institute of Astronomy and Geophysics	EG
•	Institute of Atmospheric Physics (Chinese Academy of Sciences)	CN
•	University of Alberta	CA
•	Swedish Institute of Space Physics	SE
•	Space Environment Prediction Center	CN



Monday 7 June 2010

Conclusion: Who is using SPENVIS?

- Typical users
 - Spacecraft designers or component designers
 - Educational programs
 - Scientists (model developers)
- Two populations:
 - Loyal users (~80)
 - Occasional (majority)
- Large worldwide community
 - 45% from Europe and 30% from United States
- Still growing
 - (2006) 971 (2007) 1091 (2008) 1204 (2009) 1641 ...

SPENVIS



The Space Environment Information System



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