



Modelling crisis management for improved action and preparedness

Scenario Management and Decision support Software

CRISMA Business Day

4th June 2015, Brussels

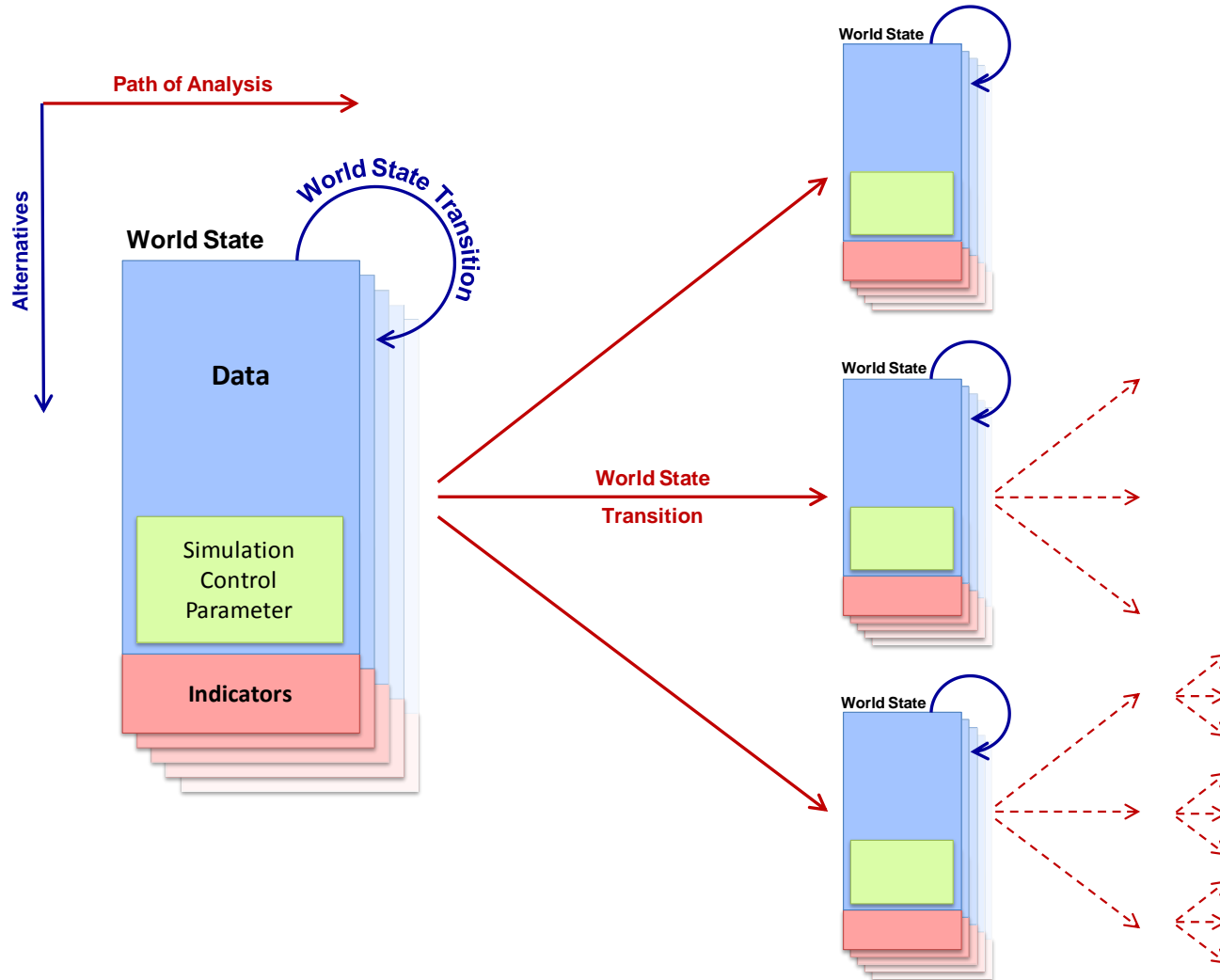
Sascha Schlobinski - CISMET

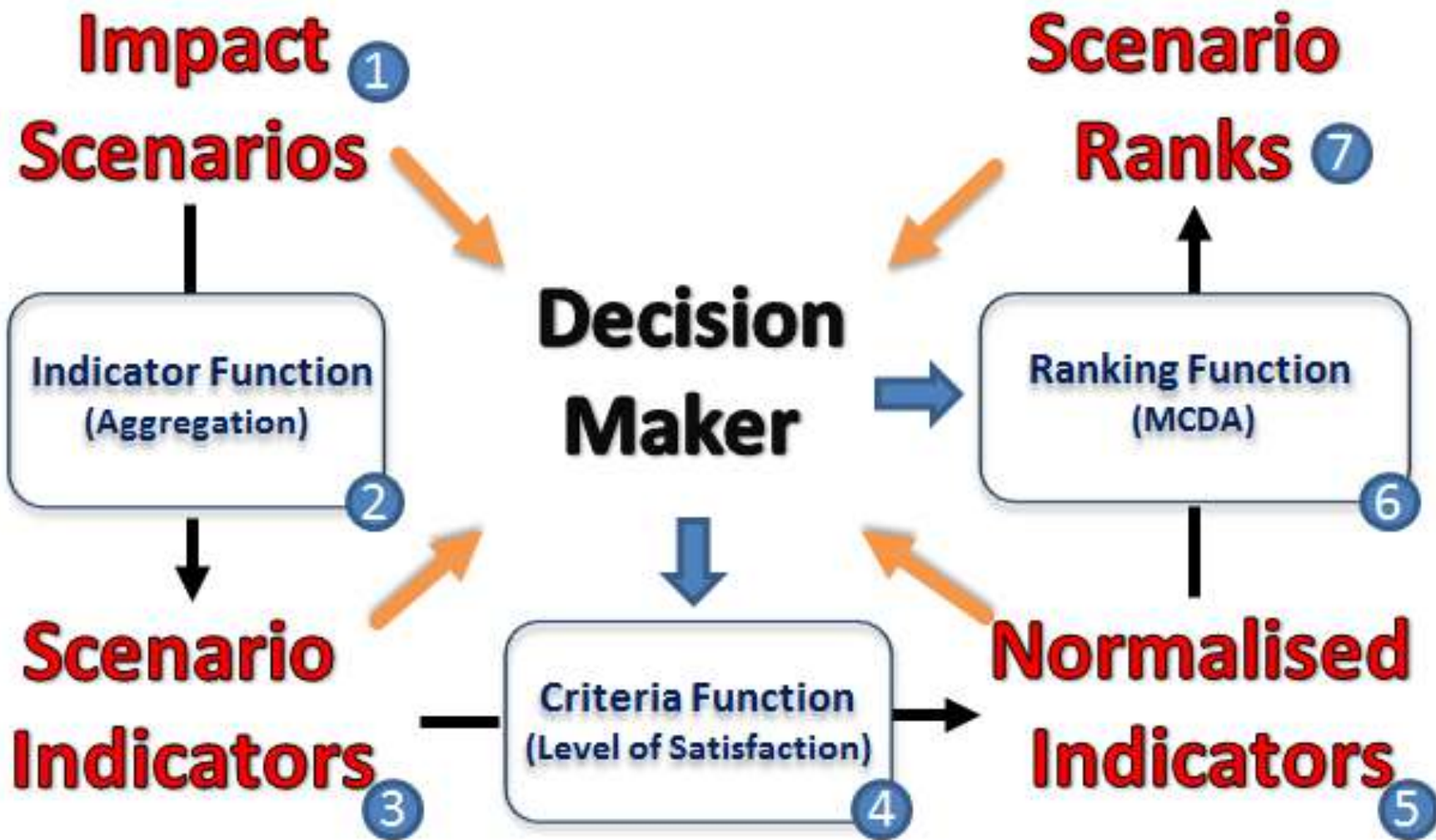


CRISMA Decision Support Philosophy (in a nutshell)

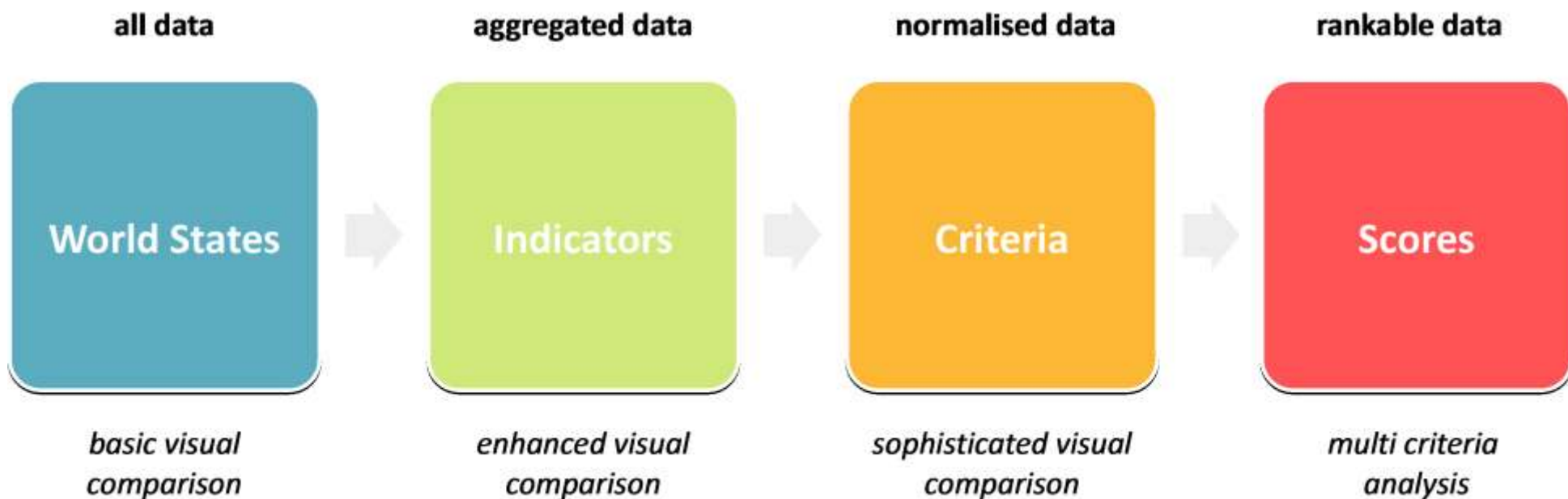
- (1) Organise simulation data in world states
- (2) let the user explore the options with developing new world states (different options, simulation parameters, decisions..)
- (3) help the user to choose a good solution by providing indicators, criteria, letting the user rank the results according to multi-criteria analysis, etc.
- (4) do not impose anything as “best solution” or even propose which way to go

Alternative Scenarios

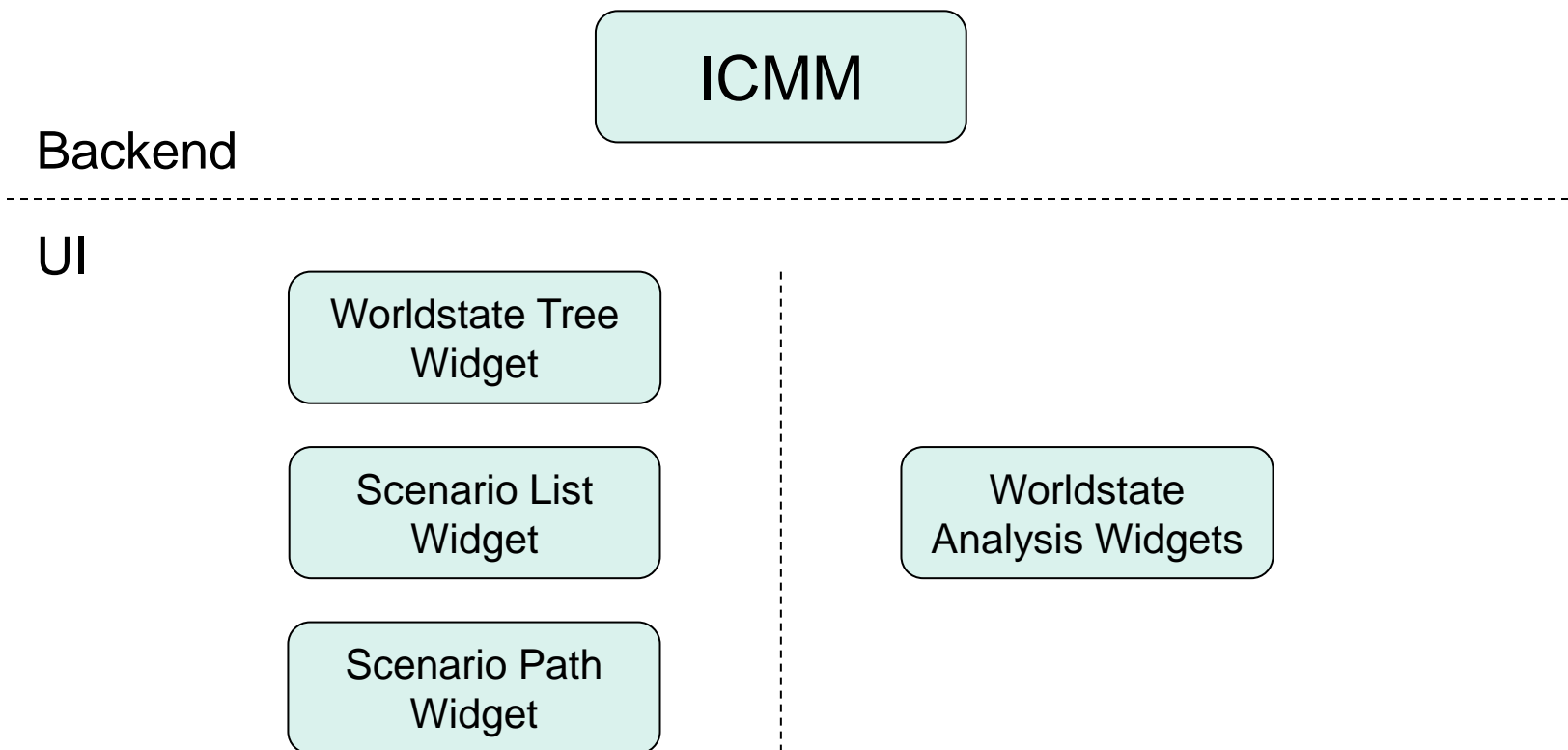




Scenario Analysis

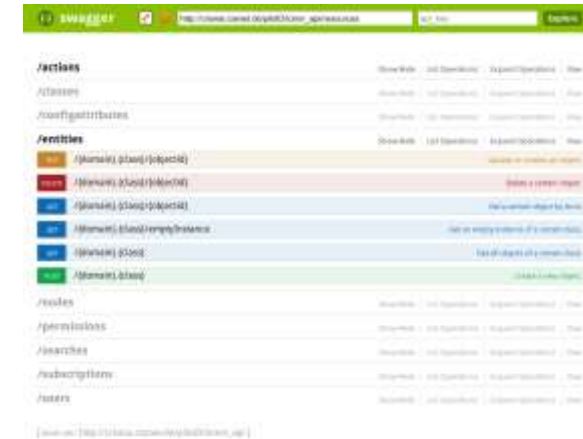


Scenario Management



ICMM

- Integrated Crisis Management Middleware
- Central component to store Worldstate and Indicator information
- HTTP / REST / Swagger API / Java implementation
- Open Source / Free of charge (LGPL)
- Three client helper libraries
- <https://github.com/crismaproject/icmm> (core server component)
- <https://github.com/crismaproject/crisma-icmm> (dockerized)
- https://github.com/crismaproject/icmm_py (python helper)
- https://github.com/crismaproject/icmm_js (javascript helper)
- https://github.com/crismaproject/icmm_java (java helper)

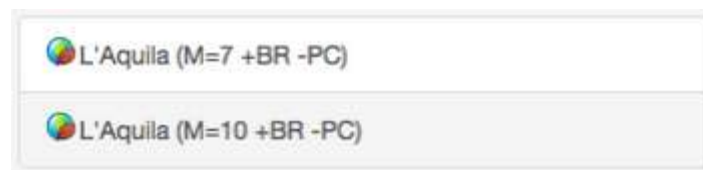


Endpoint	Method	Summary	Response
/actions	GET	Get all actions	200 OK
/actions	POST	Create a new action	201 Created
/actions	PUT	Update an action	200 OK
/actions	DELETE	Delete an action	204 No Content
/configattributes	GET	Get all configuration attributes	200 OK
/configattributes	POST	Create a new configuration attribute	201 Created
/configattributes	PUT	Update a configuration attribute	200 OK
/configattributes	DELETE	Delete a configuration attribute	204 No Content
/entities	GET	Get all entities	200 OK
/entities	POST	Create a new entity	201 Created
/entities	PUT	Update an entity	200 OK
/entities	DELETE	Delete an entity	204 No Content
/nodes	GET	Get all nodes	200 OK
/nodes	POST	Create a new node	201 Created
/nodes	PUT	Update a node	200 OK
/nodes	DELETE	Delete a node	204 No Content
/permissions	GET	Get all permissions	200 OK
/permissions	POST	Create a new permission	201 Created
/permissions	PUT	Update a permission	200 OK
/permissions	DELETE	Delete a permission	204 No Content
/searches	GET	Get all searches	200 OK
/searches	POST	Create a new search	201 Created
/searches	PUT	Update a search	200 OK
/searches	DELETE	Delete a search	204 No Content
/subscriptions	GET	Get all subscriptions	200 OK
/subscriptions	POST	Create a new subscription	201 Created
/subscriptions	PUT	Update a subscription	200 OK
/subscriptions	DELETE	Delete a subscription	204 No Content
/users	GET	Get all users	200 OK
/users	POST	Create a new user	201 Created
/users	PUT	Update a user	200 OK
/users	DELETE	Delete a user	204 No Content

Worldstate widgets



- Basic worldstate control widgets
- Full worldstate tree, scenario list and scenario evolution widget
- Integrates with ICMM out of the box
- Javascript/AngularJS implementation
- Wirecloud Wrappers
- Open Source / Free of charge (LGPL)
 - <https://github.com/crismaproject/worldstate-tree-widget-angular> (base tree widget)
 - <https://github.com/crismaproject/worldstate-tree-widget-wirecloud> (tree wirecloud wrapper)
 - <https://github.com/crismaproject/scenario-list-widget-angular> (base scenario list widget)
 - <https://github.com/crismaproject/scenario-list-widget-wirecloud> (scenario list wirecloud wrapper)
 - <https://github.com/crismaproject/scenario-evolution-widget-angular> (base scenario evolution widget)
 - <https://github.com/crismaproject/scenario-evolution-widget-wirecloud> (scenario evolution wirecloud wrapper)



L'Aquila (M=7) / L'Aquila (M=7) / L'Aquila (M=7 +BR) / L'Aquila (M=7 +BR -PC)

Worldstate Analysis and Decision Support Widgets

- Basic Analysis with simple tables and dynamic scatter plots
- Advanced decision support with spider charts and MCA
- Integrates with ICMM and Worldstate widgets out of the box
- Files/JSON-based standalone version
- Javascript/AngularJS implementation
- Wirecloud Wrappers
- Open Source / Free of charge (LGPL)
- <https://github.com/crismaproject/worldstate-analysis-widgets> (core implementation)
- <https://github.com/crismaproject/worldstate-analysis-widgets-wirecloud> (wirecloud wrapper)



Summary

- CRISMA provides software for strategic DS on 3 levels
 - Data Exploration
 - Correlation on aggregated data
 - Multi Criteria Analysis
- Transferable Indicator based DS concept
 - 1. Well defined World State
 - 2. Indicators as common denominator →
 - (a) Quantitative Indicator Analysis
 - (b) Qualitative Indicator Analysis (Criteria)
 - (c) Multi-Criteria Analysis
- Application independent DS components supporting
 - (a), (b), (c)