

SURAGrid Application Description

<b>Application Name</b>	Grid Appliance
Application Area	Grid computing
Keywords	Virtual machines
Project/Dept. Affiliation	SURA-SCOOP. UFL
Value of grids to this application	Facilitates the creation of homogeneously configured wide-area virtual networks of virtual machines for batch-scheduled jobs through Condor; in the context of SURA-SCOOP, it enables the execution of several coastal modeling applications for retrospective analysis, such as CH3D.
Originating institution	University of Florida
Contact (s) Name, Email	Dr. Renato Figueiredo: <a href="mailto:renato@acis.ufl.edu">renato@acis.ufl.edu</a>
Participating sites	
General description	A self-configuring virtual machine which contains the IPOP virtual networking package and the NSF/NMI Condor middleware
Anticipated system requirements for SURAGrid nodes running this application	512MB of RAM Intel-compatible architecture Windows or Linux O/S with VMware Server or Player installed – free download from <a href="http://www.vmware.com/download">www.vmware.com/download</a>
Anticipated non-system requirements for SURAGrid nodes running this application	
Grid focus (data sharing, computation, access to unique resources, collaboration)	Middleware, high-throughput computing
Network dependencies (bandwidth, latency, multicast, other)	Machine hosting the grid appliance must be connected to the Internet and be able to send UDP messages over the network – either with a public IP address, or through network address translation (NAT).
Expected frequency of application run (one-time, occasional, monthly, weekly, daily...)	Subject to workload and Condor scheduling policies
Estimated start date for application run	
Describe expected application invocation mechanism (by user submitting job, programmatically by some event or timing...)	Both event triggered and user-submitted
Is this application open to others to use with their own data or revisions?	Yes
Additional comments	More information on the appliance: <a href="http://www.acis.ufl.edu/~ipop/grid_appliance">http://www.acis.ufl.edu/~ipop/grid_appliance</a>

SURAGrid Application Description

<b>Application Name</b>	TB-CH3D-SSMS (CH3D Storm Surge Monitoring System) at Tampa Bay, Florida
Application Area	Coastal Engineering / Oceanographics
Keywords	CH3D
Project/Dept. Affiliation	SURA-SCOOP. UFL
Value of grids to this application	
Originating institution	University of Florida
Contact (s) Name, Email	Dr. Peter Sheng: <a href="mailto:pete@coastal.ufl.edu">pete@coastal.ufl.edu</a> Dr. Justin R. Davis: <a href="mailto:davis@coastal.ufl.edu">davis@coastal.ufl.edu</a>
Participating sites	
General description	Storm surge forecasts at the Tampa Bay, FL using CH3D circulation model
Anticipated system requirements for SURAGrid nodes running this application	256MB of RAM Intel-compatible architecture
Anticipated non-system requirements for SURAGrid nodes running this application	gzip
Grid focus (data sharing, computation, access to unique resources, collaboration)	Computation
Network dependencies (bandwidth, latency, multicast, other)	Bandwidth required for data transfer ~ 500MB per simulation
Expected frequency of application run (one-time, occasional, monthly, weekly, daily...)	Four times per day
Estimated start date for application run	
Describe expected application invocation mechanism (by user submitting job, programmatically by some event or timing...)	Event triggered
Is this application open to others to use with their own data or revisions?	No
Additional comments	

SURAGrid Application Description

<b>Application Name</b>	CH-CH3D-SSMS (CH3D Storm Surge Monitoring System) at Charlotte Harbor, Florida
Application Area	Coastal Engineering / Oceanographics
Keywords	CH3D
Project/Dept. Affiliation	SURA-SCOOP. UFL
Value of grids to this application	
Originating institution	University of Florida
Contact (s) Name, Email	Dr. Peter Sheng: <a href="mailto:pete@coastal.ufl.edu">pete@coastal.ufl.edu</a> Dr. Justin R. Davis: <a href="mailto:davis@coastal.ufl.edu">davis@coastal.ufl.edu</a>
Participating sites	
General description	Storm surge forecasts at the Charlotte Harbor, FL using CH3D circulation model
Anticipated system requirements for SURAGrid nodes running this application	512MB of RAM Intel-compatible architecture
Anticipated non-system requirements for SURAGrid nodes running this application	gzip
Grid focus (data sharing, computation, access to unique resources, collaboration)	Computation
Network dependencies (bandwidth, latency, multicast, other)	Bandwidth required for data transfer ~ 200MB per simulation
Expected frequency of application run (one-time, occasional, monthly, weekly, daily...)	Four times per day
Estimated start date for application run	
Describe expected application invocation mechanism (by user submitting job, programmatically by some event or timing...)	Event triggered
Is this application open to others to use with their own data or revisions?	No
Additional comments	

SURAGrid Application Description

<b>Application Name</b>	EC-CH3D-SSMS (CH3D Storm Surge Monitoring System) on the East Coast of Florida
Application Area	Coastal Engineering / Oceanographics
Keywords	CH3D
Project/Dept. Affiliation	SURA-SCOOP. UFL
Value of grids to this application	
Originating institution	University of Florida
Contact (s) Name, Email	Dr. Peter Sheng: <a href="mailto:pete@coastal.ufl.edu">pete@coastal.ufl.edu</a> Dr. Justin R. Davis: <a href="mailto:davis@coastal.ufl.edu">davis@coastal.ufl.edu</a>
Participating sites	
General description	Storm surge forecasts on the east coast of Florida using CH3D circulation model
Anticipated system requirements for SURAGrid nodes running this application	512MB of RAM Intel-compatible architecture
Anticipated non-system requirements for SURAGrid nodes running this application	gzip
Grid focus (data sharing, computation, access to unique resources, collaboration)	Computation
Network dependencies (bandwidth, latency, multicast, other)	Bandwidth required for data transfer ~ 1000MB per simulation
Expected frequency of application run (one-time, occasional, monthly, weekly, daily...)	Four times per day
Estimated start date for application run	
Describe expected application invocation mechanism (by user submitting job, programmatically by some event or timing...)	Event triggered
Is this application open to others to use with their own data or revisions?	No
Additional comments	