Gedae 6.0 Release Notes

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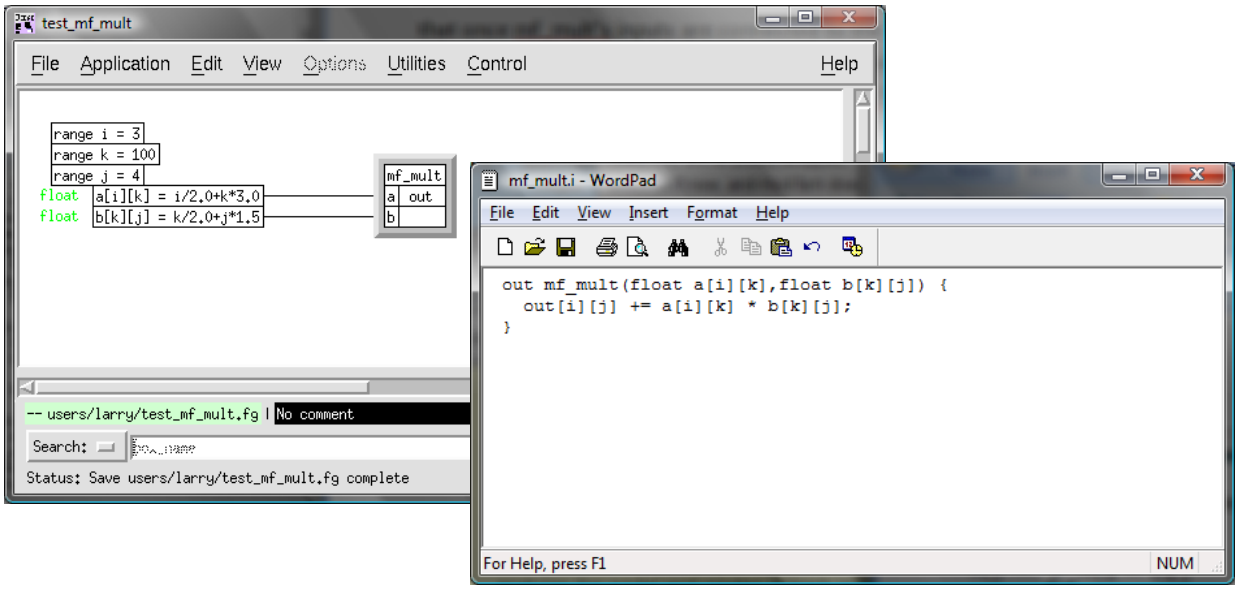
Address:	Gedae, Inc.
	1247 N Church St, STE 5
	Moorestown, NJ 08057
Telephone:	(856) 231-4458
FAX:	(856) 231-1403
Internet:	www.gedae.com

Features

Gedae 6 is a new major release. Starting with Gedae 6, licensing will be tied to the cardinal release number. That is, users of Gedae 5.x will have to obtain a new license from Gedae, Inc. to use Gedae 6 (contact gedae@gedae.com or 856-231-4458). Once a license is obtained, users can upgrade to Gedae 6.1, 6.2, etc. when available, as long as their license has not expired. Gedae 7 will require a similar license upgrade for Gedae 6 users.

Gedae Idea Language Reference Manual & Gedae Idea Programming Manual

Gedae 6.0 is the first release of Idea. Idea is a fully textual language for specifying software functionality. The Gedae Idea Language Reference Manual provides a definition of the language features available in this release; more features will be added in future releases. The Gedae Idea Programming Manual provides a tutorial-like walk through of how to use Idea in Gedae applications.



Gedae Compiler Users Manual

The specification of subscheduling has been redesigned. Subscheduling has been combined with the specification of granularity in the Fire Table. The setting of static scheduling priorities has been removed from this table and put in a new table – the Priority Table. The Gedae Compiler Users Manual documents these two tables and the new procedure for entering subscheduling data.

Gedae Flow Graph Programmers Manual

The Gedae Flow Graph Editor is now a modal editor with two modes: Edit Mode and Build Mode. To enter parameters and group settings, the user must transition to Build Mode. All graph editing is disabled in Build Mode.

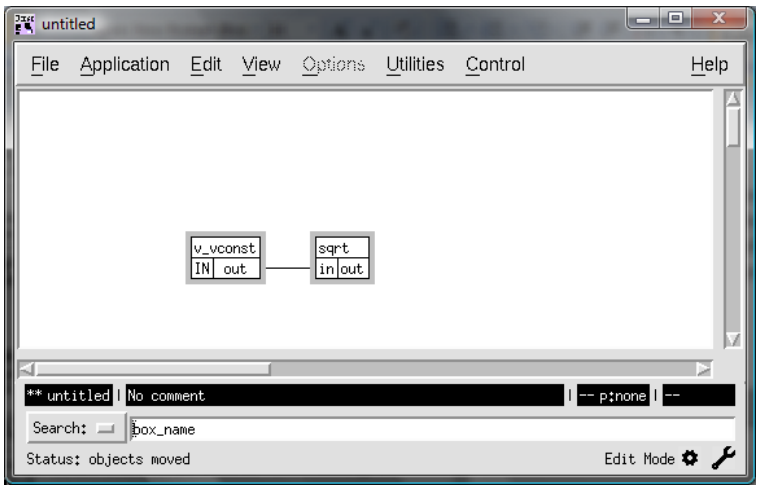
Gedae now handles group settings and constants files named "default" in the same way it handles default parameter files. When a graph is opened, default constants are opened. When a graph is transitioned to Build Mode, default group settings are opened.

Gedae now supports constant outputs from subgraphs. This feature allows the propagation of constant values up the hierarchy.

Gedae now supports and recommends the use of file extensions. Gedae supports the following three extensions.

Extension	Type of file
.i	Idea function
.fg	Flow graph
.k	Kernel (primitive)

Gedae now supports connection M-dimensional streams to N-dimensional streams. For example, in the graph below, the scalar sqrt kernel processes data created by the vector source.



Primitive Programmers Guide

The output overlap parameter has been redefined so that the tokens produced on an output can now depend on past output values. The primitive output pointer's value is set so that if the output

is declared as

stream <type> out(overlap = Ovl)

then out[Ovl] is the first value to be produced by the current firing of the primitive, and out[0]..out[Ovl-1] is the output overlap history.

Data Analysis and Display Reference Manual

Gedae 6.0 is the first full release of Gedae's Data Analysis and Display capability. For the first full release, some boxes have been moved from their previous locations in beta releases. The boxes have been placed in the streams library, organized by token and data type, using appropriate file extensions.

The displays are available in Idea by referencing the root name of the display. The functions are overloaded by data and token type.

Idea Function	Description
image(in)	Image Display
spectrogram(in)	Spectrogram
plot(in)	Line Plot – if real vs. index, if complex of (re,im) Points
plot(x,y)	Line Plot of (x,y) Points
polar(r,t)	Polar Plot
scatter(in)	Scatter Plot – if real vs. index, if complex of (re,im) Points
scatter(x,y)	Scatter Plot of (x,y) Points
bar(in)	Bar Plot
surf(in)	3-D Surface Plot

The full list of displays available in the release is:

Image Displays

streams/matrix/float/displays/mf_image.fg

streams/matrix/int/displays/mi_image.fg

streams/vector/complex/displays/vx_image.fg

streams/vector/splitx/displays/vz_image.fg

Spectrograms

streams/scalar/complex/displays/sx_spectrogram.fg

streams/scalar/float/displays/sf_spectrogram.fg

streams/scalar/int/displays/si_spectrogram.fg

streams/scalar/splitx/displays/sz_spectrogram.fg

streams/vector/complex/displays/vx_spectrogram.fg

streams/vector/float/displays/vf_spectrogram.fg

streams/vector/int/displays/vi_spectrogram.fg

streams/vector/splitx/displays/vz_spectrogram.fg

Line Plots

streams/matrix/float/displays/mf_plotC.fg

streams/matrix/float/displays/mf_plotCvV.fg

streams/matrix/float/displays/mf_plotR.fg

streams/matrix/float/displays/mf_plotRvV.fg

streams/matrix/int/displays/mi_plotC.fg

streams/matrix/int/displays/mi_plotCvV.fg

streams/matrix/int/displays/mi_plotR.fg

streams/matrix/int/displays/mi_plotRvV.fg

streams/scalar/complex/displays/sx_1plot.fg

streams/scalar/complex/displays/sx_plot.fg

streams/scalar/float/displays/sf_1plot.fg

streams/scalar/float/displays/sf_1plot2.fg

streams/scalar/float/displays/sf_plot.fg

streams/scalar/float/displays/sf_plot2.fg

streams/scalar/int/displays/si_1plot.fg

streams/scalar/int/displays/si_1plot2.fg

streams/scalar/int/displays/si_plot.fg

streams/scalar/int/displays/si_plot2.fg

streams/scalar/splitx/displays/sz_plot.fg

streams/vector/complex/displays/vx_1plot.fg

streams/vector/complex/displays/vx_plot.fg

streams/vector/float/displays/vf_1plot.fg

streams/vector/float/displays/vf_1plot2.fg

streams/vector/float/displays/vf_plot.fg

streams/vector/float/displays/vf_plot2.fg

streams/vector/float/displays/vf_plot3.fg

streams/vector/int/displays/vi_1plot.fg

streams/vector/int/displays/vi_1plot2.fg

streams/vector/int/displays/vi_plot.fg

streams/vector/int/displays/vi_plot2.fg

streams/vector/int/displays/vi_plot3.fg

streams/vector/splitx/displays/vz_plot.fg

Polar Plots

streams/scalar/complex/displays/sx_1polar.fg

streams/scalar/complex/displays/sx_polar.fg

streams/scalar/float/displays/sf_1polar.fg

streams/scalar/float/displays/sf_polar.fg

streams/scalar/int/displays/si_1polar.fg

streams/scalar/int/displays/si_polar.fg

streams/scalar/int/displays/si_polarW.fg

streams/scalar/splitx/displays/sz_polar.fg

streams/vector/complex/displays/vx_1polar.fg

streams/vector/complex/displays/vx_polar.fg

streams/vector/float/displays/vf_1polar.fg

streams/vector/float/displays/vf_polar.fg

streams/vector/int/displays/vi_1polar.fg

streams/vector/int/displays/vi_polar.fg

streams/vector/splitx/displays/vz_polar.fg

Scatter Plots

streams/scalar/complex/displays/sx_1scatter.fg

streams/scalar/complex/displays/sx_scatter.fg

streams/scalar/float/displays/sf_1scatter.fg

streams/scalar/float/displays/sf_scatter.fg

streams/scalar/int/displays/si_1scatter.fg

streams/scalar/int/displays/si_scatter.fg

streams/scalar/splitx/displays/sz_scatter.fg

streams/vector/complex/displays/vx_1scatter.fg

streams/vector/complex/displays/vx_scatter.fg

streams/vector/float/displays/vf_1scatter.fg

streams/vector/float/displays/vf_scatter.fg

streams/vector/int/displays/vi_1scatter.fg

streams/vector/int/displays/vi_scatter.fg

streams/vector/splitx/displays/vz_scatter.fg

Bar Plots

streams/vector/float/displays/vf_1bar.fg

streams/vector/float/displays/vf_bar.fg

streams/vector/int/displays/vi_1bar.fg

streams/vector/int/displays/vi_bar.fg

3-D Surface

streams/matrix/float/displays/mf_surf.fg

streams/matrix/int/displays/mi_surf.fg

streams/var_matrix/float/displays/vmf_trisurf.fg

streams/var_matrix/int/displays/vmi_trisurf.fg

Gedae Primitive Library Manual

JPEG file input has been added to the Gedae kernel library. To use JPEGs in Idea programs, use the readjpg function to read scanlines (floating point vectors) from a file.

r[c], g[c], b[c] = readjpg(Name);

The following primitives are also available, including reading full matrices and reading to 8-bit unsigned characters.

streams/var_matrix/float/Str_readjpg_vmf.k

streams/var_matrix/uchar/Str_readjpg_vmuc.k

streams/vector/float/Str_readjpg_vf.k

streams/vector/uchar/Str_readjpg_vuc.k

Embedded Configuration Manual

Shared memory transfers have been added to the Linux x86, Windows x86, and Linux PowerPC board support packages. The transfer method “common_shm” can be selected in the Transfer Table to use shared memory to perform a transfer.

Bugs Fixed

SCR	Title	Problem Description
2498	Partition not set correctly when adding new box to partitioned subgraph	When adding a box to a subgraph that has its partition set in the Partition Table, the new box should have its partition set to the subgraph partition. This does not happen. Due to the addition of Edit/Build modes and the autosaving of group settings on mode switch, the problem no longer happens.
2699	Trace data is not portable from LinuxPPC to Windows	Trace events saved on a PS3 (LinuxPPC) cannot be viewed on a Windows installation.
2743	Pointer forwarding does not work correctly with DSA or common.	
2826	SegParam: Variable data flow parameters controlling subschedule do not always work.	Segmented parameters do not correctly control the firing granularity of subschedules and the advancement of subschedule input and ouptut pointers to the parent schedule memory.
2834	Tiled Streams: Segparams should be able to control tile dimensions.	
2891	Inplace box after common should cause send box to be treated like it is inplace.	An inplace box after a common data transfer receive currently has a copy box added to avoid modifying the data on the source. Instead we should fire any boxes on the source that use this data before the common data send.
2992	Applications generated to run with no-host option don't work.	
2996	Should not be able to set data flow parameters while a graph is running or continuable.	Changing dataflow parameters while a graph is running or continuable should be outlawed. This involves checking every method of changing a parameter (parameter table and Gedae parameter setting dialogs). Also an error should be reported if a user dialog tries to change a dataflow parameter while running or

		continuable. Currently this checking is done for the running state but is not outlawed when the graph is stopped but continuable.
3007	Common followed by inplace-corrupting box on receiver corrupts data on sender.	The following senario can cause the common transfer method to corrupt data on the sender: 1. Primitive on sender partition fans out to another primitive on sender and a primitive on the receiver. 2. The primitive on the receiver is inplace-corrupting. 3. The common transfer method is used to send data. 4. The common transfer occurs before the second primitive on the sender. In the above case, the inplace corrupting primitive on the receiver can fire first and corrupt the data on the sender that will be used by the second primitive on the sender.
3012	Dy4 BSP: Trace table shows events that are 1 second too long.	Trace table events have been observed that are 1 second too long. This has been observed to happen when collecting around 20 seconds of trace data.
3038	Subschedule with output that has nonunity produce amount feeding primitive with overlap.	If a primitive on a subschedule output has a produce amount that is not equal to 1, and if the destimation primitive in the parent schedule has an overlap that is not 0, then the subschedule output is offset by the wrong amount into the parent schedule and does not produce the correct results.
3046	Pointer input connected to subschedule that has other destinations segfaults while running.	If a pointer input is connected to a subschedule and the subschedue output has other destinations, then the graph may segfault when running. The segfault is due to the fact that the pointer input is not being allowed to set the subschedule output pointer.
3060	Subschedule outputs that are inplace iterators may not execute correctly.	If a primitive output that is an output boundary within a subschedule is an inplace iterator, then the schedule may not execute correctly. The output may be treated as though it were not iterated.
3062	Change all permissions from hierarchy table causes segfault.	
3065	Periodic schedules cause memory leak on ENT.	

3066	Subschedule output that fans out to another box in the subschedule fails with an assert error.	
3070	Must insert copy box between output pointer and input pointer streams.	An input pointer and an output pointer stream that are directly connected want to set the same pointer area. To resolve this conflict, a copy box is inserted between the output and input pointers so each pointer stream can set the pointer on its side of the copy box. Note that if a tile conversion box or a box moving data between mapped and unmapped memory is inserted, then a copy box does not need to be inserted.
3072	Selecting the Archive Dialog menus “Restore All” or “Restore Renamed” causes a segfault if one of the boxes in the archive didn't exist before.	
3079	Tiled pointer connected to tiled pointer does not work.	A primitive that copies the output tile pointer to the input tile pointer is now inserted.
3080	A segfault occurs when a graph is rescheduled that had pointer release boxes inserted during its initial scheduling.	
3094	Improve transfer table for a common transfer type.	When the transfer type is set to common, the table allows both the number of send-bufs and the number of recv-bufs to be set, though only one buffer exists. This has been fixed by disabling the Recv Bufs column in the table.
3098	Target process with just one static schedule does not implement periodic schedules correctly.	When a target process with one static schedule is running that schedule at a periodic rate, the target process should sleep for the period elapse time after every schedule completion. While this was happening, a second sleep of 2 seconds immediately followed causing the process to run slower than the user requested periodic rate.

3100	A static input that is an internal queue can cause deadlock.	A graph that has a static input that is an internal queue to the schedule (connected either directly or through another schedule to a dynamic output in the same schedule as the static input) can have the dyndeq primitive that feeds it scheduled to fire first in the schedule. In this case, the schedule will fail when the dyndeq fires and it will never be scheduled again.
3101	Assert error due to multiple copy boxes being inserted between source and inplace destination with multiple other overlaped destinations.	An assert error with a report like sync<AL_in has too many sources sync.copy_226>out sync.copy_225>out sync.copy_224>out Error: assert(OcountList(sources) == 1) Reason: "sync<AL_in does not have exactly one source." File: /home/kerry/gedev_REL5_5/gedev/development/kernel/source/streamNavigation.c, Line: 200 Occurs when a destination has one inplace destination and multiple other destinations that have overlap. The problem is Gedae inserts one copy box between the source and the inplace destination for every overlapped destination, which causes the inplace destination to have multiple copy box sources.
3113	Primitive v_decimDto1 and related primitives produce incorrect results.	The output vector size of the v_decimDto1 primitive is incorrect if the input vector size is not a multiple of D. For example, if the input vector size n is odd and D is 2, then the last item in the vector should be output, but it is not. The output vector size should be changed to (n+D-1)/D rather than n/D. This problem was originally reported on the vv_decimDto1 primitive. Here is a list of all the primitives with the same problem : vv_decim2to1 vv_decimDto1 vvx_decim2to1 vvx_decimDto1 vvi_decimDto1 v_decim2to1 v_decimDto1 vx_decim2to1 vx_decimDto1 vi_decimDto1 vz_decim2to1 vz_decimDto1 vz_decim2to1 vz_decimDto1
3126	Function interface to launch package doesn't build on 64 bit OS's.	On 64 bit Linux, when trying to generate a launch package, Gedae complains that there is an error in the build.
3133	Fix expression codegeneration to handle ?: operations requiring	If x has type complex, then an expression like: complex y = re(x) > 2 ? x : 2; is not codegenned correctly. The 2 following the : operand is not promoted to complex as it

	promotion to complex correctly.	should be. This problem affects both codegen of parameters and the codegen of stream primitives.
3146	Load default parameter files when adding after an attach.	If a graph is attached and a new subgraph is added, then the default parameters are not loaded.
3157	Deleting a parameter doesn't make the parameter file dirty.	
3158	Fire method does not work correctly when granularity is not 1.	A stream primitive Fire method is not codegenned correctly to handle a granularity other than one.
3166	Segmented produce parameter driving an input with a consume that is a multiple of max produce does not allocate enough space.	Segmented produce parameter driving an input with a consume that is a multiple of max produce does not allocate enough space. For example, a scalar interpolate primitive that has an interpolate input value connected to a seg parameter with a max value of 4 driving an s_v primitive with a vector size of 1024 will cause the upstream scalar primitives to be created with a granularity of 256. If the interpolate value at runtime changes to 1, then the granularity of the scalar primitives will be set to 1024, but not enough space will have been allocated for those primitives to execute. This will cause the scalar primitives to write outside their allocated memory, perhaps causing a seg-fault and perhaps overwriting other memory values that will be used by unrelated primitives.
3168	SegParam: Joint constraints are not applied when calculating queue size.	
3173	SegParam: Handle static input/output iterate parameter correctly.	
3181	SegParam: Handle multiterm output dimension equations correctly.	A box that creates an output dimension equation based on multiple input dimensions where each input dimension is controlled by a segmented parameter does not propagate the dimensions correctly. For example, a box with Input: { stream a[N]; stream b[M]; } Output: {

		stream out[N+M]; } will cause a problem if N and M are both segmented parameters.
3182	SegParam: Segparam of a different type than destination doesn't work and doesn't report an error.	Fixed to report error when segparam derived value is not an integer or has noninteger terms.
3190	SegParam: Boxes that multiply fire and whose granularity depends on a segparam do not fire at the correct granularity.	An example of a scenario causing the problem is a cyclic vx_mux2 primitive whose dimension is set via a segparam connected to a vx_x connected to a scalar primitive. Because the cyclic vx_mux2 box fires twice in the schedule, the scalar primitive fires at a granularity twice what it should be.
3228	SegParam: Segparam expressions that simplify to 1 cause a segfault.	
3239	SegParam: A segmented parameter used only on a destination processor causes a segfault during the allocation phase of compilation.	A segmented parameter that is not connected to any primitives in the partitition on which it is generated causes a segfault during the allocation phase of graph compilation.
3240	The Dynamic dependency algorithm does not correctly set dependencies of static inputs.	Primitives in the same static schedule thread, that are only connected by virtue of data being sent through another thread, must have the destination primitive marked "dependent" on the source primitive. This dependency marking forces the source primitive to fire first. However, if the destination primitive has a static input, then the dependency should be placed between the source primitive and the dyndeq primitive that is inserted before the destination primitive. As a result, the dyndeq primitives can fire first, causing a dataflow deadlock. The problem does not occur if the destination primitive has a nondet or dynamic input (as is the case with a merge primitive) because no dyndeq primitive is inserted.
3247	SegParam: A segmented parameter that affects dataflow must have a	If a segmented parameter affects dataflow, then Gedae should warn the user if it does not have a constraint. The only warning a user gets now is that boxes "fail to

	constraint.	evaluate" during preprocessing.
3260	SegParam: Fanning out a segparam to exclusive subgraphs should fail during compilation.	
3262	Segparam: Fanning out segmented source to multiple exclusive subgraphs should be detected as an error.	A nonexclusive segmented source that goes to multiple exlusive subgraphs should not work.
3265	Trace Table: Exclusive queue names should not contain family index.	
3266	Flattened Graph: Exclusive queue shows data on wrong queue when View->Queues is enabled.	
3269	Input range variables descending more than one level into graph were not instantiating reliably.	
3271	SegParam: Constraints should only be on output segparams.	
3272	Gen segfaults when exclusive output is not a family.	
3273	Make Gen disallow mixing exclusive and nonexclusive segmented outputs.	
3281	Infinite recursion propagating pipeline levels	Feedback delay through tiling boxes causes infinite recursion during graph compilation in the function “propagatePipelineLevel”.
3291	Segparam: A graph that	When a dataflow parameter is not set and the user

	failed to compile due to an unset parameter does not compile after that parameter has been connected to a segparam.	attempts to compile the graph, the compilation should fail. If after this failure, the user then connects the dataflow parameter to a segparam, the compilation should succeed but does not.
3292	Resolve box is not adjusted correctly for segparam change - detect and report.	Problem was observed when an s_halfOvrl_v primitive has a dimension controlled by a segmented parameter. The resolve associated with the overlap copied too much data from the wrong location when the vector size was less than the max constraint.
3311	Can no longer name inputs "range".	Graphs created previously with inputs named "range" must be changed.
3317	Unmapped property should not propagate from a tile to an untiled stream i/o.	The unmapped data type should not propagate from a tiled to a non-tiled stream i/o. The unmapped property must stop propagating because a conversion box must be inserted at such a boundary, and the conversion box can only operate between mapped and unmapped data.
3318	Multibuffered unmapped to mapped transfer subschedules should not add a wait to the "get" schedule if there is no "put" schedule.	Multibuffered subschedules hide unmapped to mapped memory data transfers behind primitive execution. Such subschedules are broken into 2 or 3 subschedules with the names .get, .exec or .put appended to the names. A .get schedule is required if data is moved from unmapped memory into mapped memory. A .put schedule is required if data is moved form mapped memory into unmapped memory. If a multibuffered subschedule does not require a .put subschedule, then the schedule creation routine should not insert a wait pritmitive at the beginning of the .get subschedule. The wait - while not changing the behavior - is unecessary and therefore causes an unnecessary inefficiency.
3319	Use barriers for list Cell B.E dma function e_getmu_nw and e_putmu_nw	
3337	Cell BSP: Port creation routines for common are not reliable.	In the Cell/BE spu BSP, the port creation routines are not reliable. This problem is observed as a graph that fails to receive data from a sender that has sent the data.

3338	Cell BSP: Spu stream reads do not work for dynamic send/recvs	
3341	Segmentation: Cannot control granularity of segment source and dest independently.	
3345	Negative Trace event duration on AV2 bsp	The Trace Table timestamp generated for the Dy4 AV2 (and AV6) are occasionally wrong and can cause negative event durations in the Trace Table.
3351	Exclusive State: Repartitioning can cause segfault.	If a graph containing distributed segmentation is run with one partitioning and later repartitioned in a different way, then Gedae can segfault.
3357	Segmentation: Schedule firing limit should take into account the minimum output segment length.	A segment output that has the minimum segment length set to a value other than one will cause the schedule to fire at a granularity lower than it should.
3359	Segmentation: Min segment length equation that is invalid does not report error.	If the equation of the minimum segment length of a segmented output specifies invalid terms, then an error is not reported.
3361	Change all directory protections from 0755 to 0777.	When running from the same directory as a different user, it is sometimes the case that Gedae will try to reopen files in the same directory that was previously created by the different user and fail as a result of the protection 0755. Changing to 0777 would solve the problem.
3372	Primitive embeddable/comm/demod 2 does not correctly update LockC state.	Problem manifests itself when primitive runs at a low granularity.
3377	Exclusive queue with unconnected 0th family member causes queue data and end-of-segment boundary structure to be	The end-of-segment boundary structures are placed in the bit-bucket and can get overwritten by other things in the bit-bucket. Because the end-of-segment markers are corrupted, segfaults and other errors can occur.

	placed in the bit bucket.	
3381	SegParam: Allow zero length vectors to control output queues.	A segparameter may set a vector or matrix dimension to zero. In that case, DynamicQueues record the fact that tokens have size zero. There are several places in the RTK that divided the queue space by this size, causing a divide by zero error. The problem was fixed by changing the division to a function that returns (effectively) infinity, if the token size is zero and the old value, if not.
3385	Exclusive queue with unconnected members caused assert error during execution.	An unconnected exclusive queue output causes the following assert error: "queue's schedule has multiple inputs and segment boundaries are not in sync."
3387	Restoring archive to new locations does not work with typedef boxes.	
3388	Editor: Automatic connection of selected data to newly added box fails if data families are not instantiated.	
3389	Illegal setting families of IO to local ranges.	Setting a family of a graph input to a range defined locally is illegal. This illegal expression is not noticed until midway through the procedure, creating a partial change that cannot be reversed.
3392	Pretty connections are ugly when using long data declarations.	
3394	Undo of creation of graph input or output after connected in higher level graph segfaults.	The following sequence of actions causes a segfault. Add an input or output data item to a graph and connect that data item to another data item in the parent graph. Then undo the creation of the input/output in the subgraph. Gedae segfaults during the undo.
3401	Graph with hcopy box without following box causes segfault when graph runs.	

3402	Merge box min function won't compile on Champ AV.	
3403	Powermp BSP enhancements	Fixed two problems in powermp BSP. The embMemcpy function was fixed to work correctly. In addition, the shared memory communication was fixed to eliminate cache problems where messages could arrive out-of-order.
3418	Slow termination of some graphs with GUI boxes.	
3432	Typedef box output connected to a primitive void type input segfaults.	A typedef primitive, like the splitx primitive, connected to a void primitive input type, like the delay primitive, causes a segfault.
3470	Nondet Pointer: Forward from nondet queue does not immediately prevent box from firing a second time.	
3475	Boundary between input pointer and tiled output is not handled correctly.	If a tiled output that is not a pointer is connected to only nontiled inputs, then the dimensions should propagate backwards. This was not being done when the destination was a pointer.
3480	Inplace Iterated inputs should cause box to fire at a granularity of 1.	
3481	Iteration: An iterated input that gets repeatedly copied to an inplace output requires that a copy box be inserted before a subsequent inplace corrupting box.	If a box output is inplace with an iterated input and the iterated value is not partitioned to the output (for example, if the output is the same size as the input) and if the output is followed by an inplace corrupting box, then a copy box must be inserted immediately after the output. This copy box avoids the first firing of the inplace corrupting box modifying the iterated data. As a result, subsequent firings of the inplace corrupting box will see the same data values rather than the values modified from the previous firings.
3486	A primitive with input overlap or delay on a	

	subschedule boundary does not work.	
3493	Port connected to a typedef cannot be connected to an unconnected port.	A port whose source is a typedef box cannot be connected to a port that does not have a typedef box as a dest. The user cannot connect the port and later add the typedef. Gedae should allow the connection and only complain during arc instantiation.
3509	Inverse typedefs should be openable in text and primitive editors.	
3510	Problem with doing save-as on primitive that was modified by clearing families or dimensions of ios.	If you have a primitive with an input (or output) such as in[i], or [i]in and in is modified to eliminate all references to the range i, then when a "File->Save As" is done on the primitive, Gedae segfaults.
3512	Host version of FFT doesn't complain about non-power-of-2 lengths.	
3514	Error in allocation phase when pointer connected to multiple subschedules.	If a pointer stream is connected to multiple subschedules (as in input pointer connected to both a source and destination subschedule), then only the pointer stream is incompletely initialized, which causes a segfault during execution.
3519	Improve probe comparision	If a probe file's data set begins with a byte that is a carriage return (or perhaps any white space), then when the file is read in response to the command line argument -comp_pr, the carriage return is skipped when the data is read. This skipping of the carriage return causes an immediate error in the comparsion.
3537	Windows archive restore can't rename files if directory does not exist.	When the user renames files in an archive restoration, Gedae cannot rename the file if the directory does not exist.
3539	Array parameter with parameter range and constant value does not evaluate correctly.	If a range is dependent on a parameter as: int N; range i = N; and a vector paramter with dimension i is set to a constant value as: x[i] = 0; then the parameter x does not know it is dependent on i and N and is set to a size of 0

		independent of N being set.
3548	Restore renamed also restores files that didn't exist before.	If an archive has a file that did not exist before, then Restore Renamed includes it in the files that are unpacked, even if it wasn't given a new name.
3549	Replace All in Archive Browser illegally allows changing primitive names.	Box names cannot be changed when restoring an archive. Replace All changes names but does not obey this restriction. The restriction is more dutifully enforced.
3552	Archiver does not include hierarchical typedef boxes.	
3555	Optional inplace outputs set by pointer outputs segfaults.	
3556	Primitive dimensionless void input connected to dimensional ouptut does not always get set.	
3559	Successive Saves/Opens of Editor causes it to creep down screen.	
3562	Inserted noop box has incorrect gain: Iterate Data Flow Parameter.	A noop box inserted between other boxes has an incorrect gain. The symptoms are that the graph fails to schedule with a note that some boxes cannot fire even though all their sources have fired. This was due to the fact that the noop box finished firing but the noop destination does not have enough data to complete firing.
3565	Add archive restore option to restore only files that are missing.	
3572	Always place tile conversion boxes in subschedule of file.	
3575	Segfault in exec-host command program on terminate.	Cell processor segfaults when terminating an application that has communication ports between host ppe, on which exec-host runs to one of the spes.

3576	Starting primitive editor while graph is running can cause group to leave compiled state.	
3580	SubSchedule: Add copy box between input with delay/overlap that is connected to subschedule input via inplace path.	
3582	Tiled input pointer family with tile dimension of the same size causes segfault.	A tiled pointer family input in which none of the tile dimension depends on the family index causes a segfault when the non-tiled dimensions are propagated backwards. For example, a pointer input such as: pointer stream float [f:F]in[Rt:R][Ct[f]:C]; does not cause a problem - but: pointer stream float [f:F]in[Rt:R][Ct:C]; causes a segfault.
3583	Cell BSP: Unmapped tiled matrix transfers incorrectly if tile row size is small.	For tiles with fewer than 16 rows, the tile transfers to/from unmapped memory are offset by one row from what they should be.
3585	Joint constraints are not applied correctly to EOS boundary.	
3613	Umapped Memory: Copy box errnoeously added between unmapped memory buffers.	An illegal copy box can be added to between unmapped memory buffers when there is fan-out to an inplace path that leads to a mapped memory box that corrupts the data. The copy box is added to keep the first mapped box from corrupting the unmapped memory that will be used by the second mapped box. Since a getu will need to be inserted anyway, the copy box is unnecessary and illegal.

Known Bugs

SCR	Title	Problem Description
2012	Running two VxWorks processes on the same processor.	This problem occurs when trying to run two separate Gedae generated VxWorks executables on the same processor; however, the entry point for each executable has the same name, VxWorks_main, making this impossible.
2015	Multiple exclusive sources with some of the sources are not used by every mode.	If there are multiple exclusive sources to a family of modes and some of the sources are not used by every mode, then Gedae crashes during development time scheduling. For example, if two exclusive branches drive three downstream modes and one of the branches has one of its outputs unused by the third mode, then this causes a segfault during scheduling. The workaround is to add dummy inputs to the modes to allow all the sources to be used by every mode.
2019	Graphs with host to target control ports fail on Linux and Solaris.	The problem is that the host is not performing mailbox services while it is waiting to establish a control port to the target processors. Unix processors require the host to perform these services in order to make connections.
2020	Check in all licenses on exit.	Gedae relies on FLEXlm to find checked out licenses that are no longer in use and check them back in. This works on most systems, but a BSP user reports that it does not work on their system. We should explicitly check in all licenses on Gedae exit.
2022	Inplace box scheduling problems.	Copy boxes occasionally need to be added to a graph by the user to avoid scheduling problems associated with primitive outputs marked as being inplace with an input.
2024	Connecting Graph Parameter to User Define Type Segfaults.	Gedae erroneously allows standard C parameter types to be connected to user defined parameter types. This type of connection causes Gedae to segfault.
2047	Allow Changing Length of Parameter String at Runtime.	Changing the value of a string parameter to a stream may cause Gedae to stop executing. Gedae stops executing if the length of the string is changed.

2054	Modifying a running graph segfaults.	Modifying a Gedae graph that is running can cause a segfault. This problem has been reported several times but has not been duplicated by the Gedae support group. Most edits are disabled during graph execution.
2062	Outlaw segmented static schedules controlled by nondet inputs with multiple boxes.	Segmented static schedules controlled exclusively by nondet inputs and that contain more than one box should be outlawed. These graphs are currently considered problematic and can produce unexpected results.
2064	Outlaw pointer streams followed by delays or overlap.	Pointer streams followed by delay boxes or boxes with input overlap parameters do not work and should be outlawed.
2078	Gedae can go to sleep if processes are polling.	A Gedae process can go to sleep if a process is polling. The sleeping is only seen on the NT BSP, which is currently the only BSP that implements the sleep capability. Gedae should only sleep when all schedules are in the paused state.
2104	Handling of null segments in distributed graphs	If a segmenter controls a segmented subgraph that is distributed and if the segmenter produces null segments, then parts of the distributed graph that are not directly controlled by queues will not see the end-of-segment.
2158	Trace Table send/recv webs do not work from attached launch packages.	When the Gedae Development Environment attaches to a launch package, the Trace Table send/recv webs do not work. No send/recv webs are displayed.
2221	Search on type does not follow route boxes.	If you search on the type of the input to a scope1, it does not recognize the type because there is a route box between the input and the next primitive.
2244	Using f6 to disconnect a constant can cause a segfault.	Disconnecting a constant source from a constant destination using the f6 button causes a segfault. This occurs because a stub is now connected to the constant destination and the evaluation of the constant fails.
2245	Gedae does not prompt the user to save a graph.	If a graph has been modified using the f6 cursor and that is the only modification, then Gedae does not prompt the user to save the graph when exiting Gedae.
2261	embTerminateError called from Reset does	If embTerminateNormal or embTerminateError are called from a Reset method of a graph that has more than one

	not stop the primitive.	static schedule, then the static schedule containing the primitive is not terminated, as it should be. The schedule Apply methods will be called even though one of the schedule Reset methods failed.
2267	Nonfamily output connected to family input causes graph to crash.	If a nonfamily stream source is connected to a family stream input, then Gedae segfaults when the user runs the graph. This type of graph should be detected as an error, and Gedae should not be allowed to run.
2282	Limitations on the use of typedef primitives	Typedef primitives will not work if connected to variable vectors or matrices. Typedef primitives will not work if connected to route boxes.
2312	The Gedae dy4av2 BSP function e_zvrcip can kill process.	Calling the Gedae Dy4av2 BSP function e_zvrcip can cause the process to exit with an arithmetic exception. The problem is that even if the argument to e_zvrcip has only its real or imaginary part set to zero (but not both), then a divide by zero error still occurs.
2360	Trigger boxes with Reset method but with no input parameters don't get fired.	A trigger box that has a Reset method but no other inputs does not get fired when the user selects Control->Run.
2361	Eval boxes with no inputs are not included in the launch package.	This feature can be confusing like when the Eval box calls getcwd. In this case, the launch package will use the wd from which it was created - not the one from which it is run.
2378	Create Subgraph does not support multidimensional families.	Create Subgraph cannot handle boxes and data that use multidimensional families.
2399	Gedae built-in function names should be ignored if used in nonfunction context.	Gedae built-in functions like "time" should be ignored if not used as a function. That is time(x) should be converted by the Gedae parser but x.time (or even x.time(x)) should not.
2400	Family of array parameters to a trigger box does not codegen correctly.	An input parameter like float [N]in[Max] does not codegen correctly for trigger boxes. The data values are not correct. If only one family member is set, then the box still executes; however, the array dimensions are invalid.
2406	Primitive with	If a primitive has an EndOfSegment method but no Apply

	EndOfSegment but no Apply does not work.	method, the primitive is not included in the running application and the EndOfSEgment method is never called.
2419	FGTable edit box does not recognize termination.	Gedae does not accept some FGTable entries while the graph is running. If you are trying to edit an FGTable entry, and terminate the graph so that you can change the value, then FGTables do not automatically recognize the graph has terminated. The user must unselect the entry area and then reselect it to enter the data.
2420	Microphones sporadically stop collecting data on AFG for Linux.	AFG would sometimes stop getting data from the microphones. Users were successfully running the graph for several tries, but at the next execution, it would stop working. AFG recognizes the microphone but just does not produce any data.
2423	Dy4Av2 Installation Requirement	The files rsh.exe and cygwin1.dll should be removed from %gedae%\nt\bin because delivering these files and placing %gedae%\nt\bin in the users PATH variable caused many users to have conflicting versions of cygwin1.dll in their path. To work around this problem, the user must copy cygwin1.dll and rsh.exe from their cygwin bin directory into %gedae%\nt\bin. For example, these files can be copied as: copy c:\cygwin\bin\cygwin1.dll %gedae%\nt\bin copy c:\cygwin\bin\rsh.exe %gedae%\nt\bin.
2431	Local dcomplex variable is treated like a complex variable.	If you create a dcomplex local Local: { dcomplex temp[N]; }, and then look at the Memory Map, the Memory Info Dialog states Type: complex ... Elem Size: 8 ... The correct Elem Size is 16. Running with a local dcomplex causes a segfault because this buffer is not big enough.
2432	Connection from float on canvas to double input parameter does not cast correctly.	If there is a double parameter input to a primitive and a float on the canvas, the user can connect the float to the double, however the cast is not performed correctly. The value inside the primitive is 0. Either cast floats to doubles correctly or disallow the connection.
2447	Entering launch package directory in Launch Info Dialog does not cause	Entering a directory name in the Launch Package Creation Dialog does not cause a group that is in the compiled state to move down to the allocated state. As a result, hitting the

	recompile.	Make button on the Launch Package Dialog has no effect.
2450	Loading group settings when the target host is set can fail.	If group settings are already loaded in which the Target Host is set to something other than default, then Gedae complains if a new group setting is loaded in which a partition is mapped to a target logical number that appears in the Target Host configuration file but not the default configuration. Gedae complains that "Logical processor 100 is not in embedded config file" and fails to set the "Run on Target" toggle on.
2451	Undefined symbols of form I0023_recv in target executables.	The error message: "Warning: lookupDirectorySerialNumber: directory not in database and database is locked\n" can occur when compiling a distributed graph mapped to a target processor. This error may cause the undefined symbols of the form I0023_recv when linking the target executables.
2472	The built-in size function does not work for dynamic inputs.	If a primitive input is declared as dynamic stream in; then the built-in function size does not work correctly. The value of size(in) will be zero instead of the number of data elements in the queue. The primitive should use granularity instead. If the declaration is dynamic stream in [N][M](D), then the Apply method should replace size(in) with granularity*N*M*D. This problem should either be detected or fixed.
2473	Gsim exits if group is set to run on target model and there is no target model.	Should not allow graph to run in such a situation.
2478	Memory Map Dialog "View->Changes" does not work for the development environment talking to target command program.	In the situation where the development environment is talking to a target processor through a target command program, selecting the View->Changes option on the Memory Map Dialog for the target causes Gedae to segfault.
2479	If a compile is not necessary, then Gedae should not report complete and successful	

	but rather report up-to-date.	
2507	Hitting return in blank Launch Package Dialog directory field.	If a return is hit in the Launch Package Dialog's directory field and the field is blank, then it does not "unset" the directory value as it should, but rather sets the directory value to an empty string.
2521	Don't allow setting Firing Table Granularity if Gran Mult > 1.	When using the Firing Table, if the Gran Mult field on a schedule is > 1, then the user should not be allowed to set the Granularity field of any primitive in the schedule. Additionally, setting the Gran Mult should clear all schedule Granularities.
2549	Memory leak when increasing the queue size of a shared queue.	When increasing the queue size of a shared queue Gedae does not free the original memory, and this results in a memory leak. If the queue size is increased a second time, it would have been possible to free the memory allocated the first time. Gedae does not keep track of this.
2550	FGU of hierarchical typedef boxes	FGU does not transfer hierarchical typedef boxes correctly. The typedef used to define the input of the box is set to the old directory rather than the new.
2551	Graph Stalls	A rare condition can cause a graph to stall (or segfault) when the controlled static schedule is partitioned to two processors in the following form: A->B->A. The problem scenario is that the schedule is partitioned into three parts, with the first and last parts mapped to the same processor. Usually Gedae puts the parts mapped to processor A in the same static schedule; however, to allow efficient pipelining Gedae splits the two parts mapped to processor A into two different static schedules. They are numbered n.1 and n.2 (for example 2.1 and 2.2). To see if any schedules have been broken into two parts, the user can pop up the Schedule Info Dialog and see if any of the schedule names contain a decimal point. The decimal point in the schedule name does not necessarily indicate a problem. The problem only occurs when the data source driving the processing is faster than the graph, causing the control message queue to back up and overflow. The condition is rare because the problem only happens when the graph is not keeping up with the input data rates.

2553	Embedded build can require a makeGEDAE CLEAN.	If an application is repartitioned, then the target executables do not get relinked. The problem is that all the .o files are older than the targets, and the fact that there is a new link line does not force the target library and target executables to rebuild.
2554	Unterminated comments	Unterminated comments cause the Gedae parser to segfault.
2555	Parser problem	The Gedae parser does not handle an odd number of quotes well.
2556	Arrays of strings not allowed	Gedae currently allows string array graph parameters to be declared as: const string X[] = { hello , world } or string X[i] = [i]Y where Y is a family of strings. In either case, the values so declared are not correctly set, and therefore, should be considered illegal.
2557	Function appFree memory leak	A command program running on VxWorks does not free all the resources allocated (memory, sockets, etc). The appFree function must release everything allocated. Gedae should automatically generate a call to appFree for the standard exec-host command program.
2558	External Code does not recompile.	Make is not called after a successful run, so changes to code listed in the Personal_Emb_Obj_List do not get recompiled. To force the recompile, it is currently necessary to change something from the Gedae GUI. For example, saving a primitive or toggling the Group "Run on Embedded" toggle off and on will force a recompile.
2559	Large Graphs fail to display on flattened graph.	If a graph is too large, then it cannot be displayed on the flattened graph. This occurs when the flattened width or height exceeds the allowable pixmap width or height of 32768.
2560	Primitive cannot be recompiled after Input, Output or Local section has been modified.	If a primitive Input, Output or Local section is modified at runtime, then Gedae segfaults when the primitive is recompiled and the graph is rerun. Currently, the user must exit Gedae after a primitive Input, Output or Local section has been modified.
2561	DSA with fan-out does not work for some BSPs.	If a box output fans out to several boxes mapped to several different processors, then the DSA communication mechanism does not work correctly for Mercury and Sky

		BSPs.
2562	FFT primitives only work with power of 2 sized vectors.	The FFT boxes do not support non-power-of-2 lengths; however, the comments make no mention of this fact. If these boxes only support a power-of-2, then it would be useful to have a separate set of boxes that support a non-power-of-2.
2563	Constants propagated through typedef boxes	Constants propagated through typedef boxes cannot be used for instantiation.
2564	Stream box with push in hostless launch package	If a stream box contains a call to push and it is made part of a hostless launch package, then the launch package will fail to compile, as the code for the push is not included in the standalone library.
2583	Math.h symbol floorf undefined in Windows build with VC6.0	When using the function e_vfloor on a Windows system linking with the Visual C++ 6.0 libraries, it has been reported that the math.h symbol floorf is undefined. Newer versions of Visual C++ do not report this error.
2589	Saving a primitive to a directory that does not exist.	When saving a primitive to a directory that does not exist, Gedae should create the directory.
2603	Box names are not updated correctly in an FGTable.	The box names in FGtables sometimes do not matchup with the ones on the canvas. If a subgraph is saved under a new name using Save As, then the tables such as Hierarchy and Fire Table do not update. Closing and reopening also does not update the name - the name stays stale, set to the old name. Exiting and reentering Gedae is the only way to see the new name.
2606	Error occurs when partition mapped to host and launch package is set to run with no host.	If a partition is mapped to the host and the launch package is set to run with the option "Create schedules in Target Executables (No Host)", then Gedae does not flag this as an error until the user tries to build the application. The error message states: "Cannot create a target command program for the host BSP because the BSP does not have the createPortName function set." Instead Gedae should pop up an error message stating that the launch package is set to the no-host option but indicate that some partition is mapped to the host. In addition, it should pop up an error message when the launch package is already set to no-host

		and when you try to map a partition to the host.
2612	Linux BSP does not set nbsize of socket transfers correctly.	Setting the nbsize of Linux (eredhat) stream transfer methods over 250000 does not work. For example, if the nbsize is set to 500000 and the sender tries to send 500000 bytes, then the sender will block until the receiver executes. Because the Gedae static scheduler counts on the sender being able to send the nbsize amount without blocking, the failure to send the nbsize amount of data can cause the application to deadlock.
2623	Dynamic data flow params: implement iterate constraint.	The new iterate data flow parameter will not work if it is being controlled by a segmented parameter.
2696	Problem with subscheduling	If a connected subschedule has a data path that exits and then reenters the subschedule, then the subschedule cannot fire. This situation should be detected and reported to the user. Currently the problem is reported as an error in setting dynamic dependencies - even if there are no dynamic queues in the graph.
2710	FGTable entries that override equations don't always apply.	If a family is first partitioned by equation, and then one member of the family is partitioned to a fixed value, then the fixed partition value does not show up in the Mapping Table. Similar behavior occurs for other FGTables as well.
2722	Subschedule feeding overlap input does not work.	
2723	Dynamic dependency algorithm does not work with subschedules.	
2737	Overlapping exclusion sets do not work.	Suppose two exclusive outputs each have a family member that controls different sets of subgraphs. If these sets overlap, but one set does not contain the other, then the exclusive set creation algorithm will not work correctly.
2742	Common recv port inplace with common send port does not work.	

2769	Exclusive subgraphs that output results to static input primitives do not work.	An exclusive branch that goes to a set of exclusive subgraphs typically ends in a merge box controlled by the same control input that controlled the exclusive branch. However, if one of the exclusive subgraph outputs goes to a static box input, then the static box input does not correctly propagate higher level segment information.
2782	Adding probe point to unmapped memory stream does not work.	
2783	Adding probe point to primitives without Apply method does not work.	
2816	Partitions do not respond to stop command when break point occurs in attached command program.	
2821	Stream primitive output parameters cannot be sent to primitive inputs in a different group.	If you send primitive output parameters to a primitive in a different group and the destination group is processed first, then the parameters for that group are not set and Gedae fails to complete scheduling.
2823	Inplace dynamic segmented exclusive output	Inplace dynamic segmented exclusive outputs do not work. Pointer forwarding should go down only the exclusive branch on which data is forwarded.
2868	Changes to subgraph parameters register subgraph parameter files as dirty.	If a graph G has a subgraph A that has a primitive P and A's input K is connected to P's input K, then setting K on A I/Os causes A's parameter file to be dirty. The desired behavior is to ignore hierarchy when setting parameters through the FG Editor and only apply hierarchy through the Parameter Table.
2878	Cannot save bookmark of new unsaved graph persists after graph has been saved.	
2879	Function interface to LP must use synonyms or	

	else names don't resolve.	
2888	Tiled Streams: Unmapped target to host boundaries do not get conversion box added.	An unmapped source driving an mt_rpart connected directly to an m_disp box running on the host is allowed. No conversion box is added and the transfer table shows the transfer type as "undefined".
2903	Fan-out to typedef box inputs fails to schedule.	A box that fans out to the inputs of a typedef box causes the Gedae compiler to be confused about the connectedness of downstream boxes.
2959	Changing constant values does not reinstantiate graph.	
2960	Loading constants after a graph has already been instantiate with another constants file does not reinstantiate the graph.	
2961	Group schedule memtype settings are easily lost.	
2969	Input pointer stream cannot be directly connected to an output pointer stream.	An input pointer stream currently cannot be directly connected to an output pointer stream. Gedae does not detect this during compilation and can segfault when the graph is run.
2972	Force recompile if box changes between runs.	
2973	Save-as on subgraph parameter table does not remove parent graph parameter overrides.	When a subgraph's parameter table is saved using the Save-As function, the parameter overrides saved at the parent graph level should be removed.
2975	Breakpoints loaded for a graph are used with a newly loaded graph.	If a breakpoint file is loaded for one application graph and a second application graph is loaded using File->Open, then Gedae attempts to apply the old breakpoints to the new file causing a segfault.
2987	Eval primitive Include section parsing error poorly reported.	If you have an Eval box and you illegally place the Include directive before the Output directive, Gedae fails to report the error and fails badly.

2989	Calls to embBreak do not work when called from Reset method of unsegmented graphs.	
2993	Cannot turn off breakpoints without restarting.	
3013	e_vlint assumes range [0,m-2] on 2nd input	
3014	Cannot connect void stream to host boundary stream.	
3040	Parser turns \" into "	If there is code like char *s ="\""; in an Apply method, then it gets code generated into char *s ="""";
3061	alt1/subsched box never chosen for nested subschedule.	The more efficient alt1/subsched box is never chosen if a subschedule is nested within another subschedule.
3067	Subschedule output that fans out to another inplace box in the subschedule produces incorrect results.	
3068	Auto-subscheduling can cause failure during scheduling phase of compilation.	The auto-subschedule feature can cause scheduling to fail by placing boxes in a subschedule that output to a non-subscheduled box or boxes that then feed an input of the subschedule. Because the subschedule boxes must fire automatically the schedule will not run.
3081	Large Page Memory if not allocated in mapping table doesn't warn the user.	If memory segments are mapped to large page memory and the mapping table doesn't have allocation for large pages set in processor paramter list (as -lph 100000 for example), then the process hangs at start up with no explanation given. Either should inform the user why the processor hangs or the memory should automatically be allocated at compile time.
3108	Menu Utilities->Set Min Execution Time... does	

	not work on Windows.	
3125	Unconnected trigger array input causes launch package generation to fail.	An unconnected trigger box array input, such as trigger char name[N]; causes the launch package to generate a line like {{ 1, dims_constant059, 0}, 372}, But it did not previously generate a declaration for dims_constant059.
3140	CM Status Parsing	The CM status parsing is not general. It is tied to CVS, and the user can't customize this.
3151	A var-matrix to matrix connection is currently allowed but should be illegal.	
3163	Cyclic primitives don't implement built-in function size correctly.	Observed in vx_mux2 and vx_demux2 and other related box (vi_demux2, mz_mux2...)
3169	Multiple constraints in gain equations can cause excessively long schedule times.	If there are two segmented parameters controlling produce and consume amounts of primitives within a static schedule, then Gedae will attempt to simplify all rational expressions by looping over all the possible values of the constraints to see if a common value is achieved. For example, constraints Nfft <=16384 and Novrl < =8192 both going to the s_ovrl_v box will cause the consume amount to be calculated as Nfft-Novrl. The Nfft and Novrl constraints are applied to every gain equation in the static schedule connected to the s_ovrl_v primitive independent of whether they contain the Nfft and Novrl values. These constraints cause a loop of size 128 million.
3171	Resolve box is not adjusted correctly for segparam change.	Problem was observed when an s_halfOvrl_v primitive has a dimensions controlled by a segmented parameter. The resolve associated with the overlap copied too much data from the wrong location when the vector size was less than the max constraint.
3172	Segparam: Set gain equations correctly when connecting ports of different dimensionality.	The new (as of Gedae 6.0) feature of allowing higher dimensionality boxes to be connected to lower dimensionality boxes does not work correctly with segmented parameters. Segmented subgraphs should not use this feature but should use explicity dimensionality conversion boxes (such as m_v or vx_mx).

3186	Primitives that multiply fire within a static schedule thread do not report the correct number of total fires on the Trace Table.	A primitive that multiply fires within a schedule - such as a cyclic box or other boxes that are executed multiple times due to being connected to a cyclic box - does not report the correct number of total fires in the Trace Table.
3191	IXLIBS e_dotpr segfaults on nonaligned inputs.	
3246	SegParam: An error should be reported if segmented parameters propagate outside of the scope of the segmentation.	
3249	SE: Group settings are lost if symbolic expressions are edited.	When a symbolic expression is edited, a new box may be codegenerated for the expression. If the group settings are set for the box rather than for the expression, then this means that the group settings for that expression are lost.
3257	Void types segfault if output is unconnected.	
3261	Mixed segmented and exclusive sources should work.	A nonexclusive segmented source that goes to a single exlusive subgraph should work.
3274	AFG doesn't work if the device uses a file other than /dev/audioX	Have AFG check /dev/dspX files as well.
3277	Queue Table Bytes field does not always update when user sets Capacity field.	Queue Table Bytes field does not always update when user sets Capacity field. The actual number of bytes in the queue is correctly reallocated but is not displayed in the Queue Table. Destroying the Queue Table and bringing it up again shows the correct number of Bytes.
3278	Disallow sending both exclusive and nonexclusive segmented outputs to the same	

	subgraph.	
3298	GSIM: DMA Recv Buf not initialized on subschedule boundaries.	
3314	If two subschedules are nested - one within the other -both can't be multibuffered.	
3315	The auto-subschedule tool does not subschedule adjoining subschedules.	When auto-subscheduling, if an iterate output is connected to an iterate input, then both sides are placed in different subschedules. These subschedules can fire at a granularity that has a common multiple. However, the auto-subschedule tool does not detect this and does not place the subschedules in a higher level subschedule. As a result, the buffer between the two subschedules is larger than it needs to be. A workaround is to place a noop box between the two connected iterate ports to force a box to be placed in a higher level subschedule.
3342	Dynamic Schedule priority does not work.	A dynamic graph with a branch and merge, where the merge is part of the same schedule as the branch, may cause the dynamic schedule priority to increase without bound. This is a problem as the priority rolls back to 0 causing a hiccup in the firing order every 4 billionth execution. In addition, the increasing priority causes upstream primitives feeding nondet queues that don't require data to never fire. Such primitives should probably be set to run periodically. However, if they are set to run periodically in the reset method, then the reset method is also never scheduled so the periodicity is not set. The schedule will be on the ready queue but never have high enough priority to run.
3346	Crashes reported when using fast entry box search.	
3355	Differences in sal.h between MultiCorePlus (Cell) builds cause FFT segfaults.	The sal.h in different builds of MultiCorePlus defines FFT constants differently. That makes the Gedae E library build incompatible between MCP builds. Gedae supports Version 1.1.

3358	Segparam: Minimum segment length can be controlled by segparam.	
3362	Checking out files can cause file dates to be such that gen appears to fail.	After checking out files from FGlibraries, the dates are such that gen may appear to fail as the product of the gen appears older than the input to gen.
3370	SE: Codegen expressions that reference individual family members correctly where index ranges are bigger than variable's families.	There is a problem with the following. We don't replace range indexed values if range indices are bigger than the ranges to the dd the value points to. For example range p = 4; range i = #p*4; [p]x = ... y[i] = [i/4]x; In the above case, we just use x since the range i appearing in [i/4] is bigger than p. This is not completely safe as for example y[i] = [i/8]x. And now all p family members are used in the expression, while only [0]x and [1]x are required. This means that if [0]x and [1]x are produced but [2]x is not yet produced, then y will not be produced, even though it could be.
3376	Multiple produces on partially connected exclusive output does not work.	If a primitive with an exclusive output produces multiple segments on the output in the same firing, and if some of those segments are directed to family members that are not connected to destinations, then the pointer maintained by the primitive does not agree with the pointer maintained by the queue. As a result, the destination primitives will potentially read unitialized data.
3380	SegParam: Variable data flow parameter controlling a multifiring subschedule does not work.	
3382	Register Gedae language keywords and don't accept them when trying to match generic names.	Add the facility to the Gedae parser to create a keyword list. If the parser attempts to match to a string with an unspecified value - like trying to match to a generic identifier name - and a keyword is encountered - the parser should declare the match invalid. For example, if range is declared to be a keyword, then the data declaration: int range = 0; will be invalid. The parser is expecting a generic identifier name in the place of range.

3390	Setting a family so that it makes source/dest graph subgraph i/o have an inconsistent binding causes arc to be deleted.	For example, if a graph local data family is changed and the local is connected to a subgraph that has multiple family outputs and if some of those outputs are also connected to other locals having the original family index, then this can cause an inconsistent binding of the subgraph range. Gedae currently handles this by allowing the user to change the local data family, but it deletes the arc connecting the local data to the subgraph. Further, if the user tries to undo the change, then Gedae will not allow the undo. Either Gedae should not allow the user to make such a change without disconnecting all the subgraph outputs, or it should allow the change and not delete the arc.
3405	SE: Handle time indices correctly in subexpressions and function arguments.	An expression like: range i = 128; range t = inf; stream complex x[i] = ... y[i](t) = dft(x(2*t)); should work by adding a primitive that decimates x before the vx_fft primitive. Compound expressions like y = (x(1)+x(2)) + x(3); Should also have boxes added that convert the expression to the equivalent of: range t = inf; x1(t) = x(4*t+1); x2(t) = x(4*t+2); x3(t) = x(4*t+3); y = (x1+x2)+x3;
3411	SE: Circular defintions of vars should be allowed through some functions.	The Gedae parser prevents data descs from being added that are circularly defined. That is, int a = b; int b = c; int c = a; is illegal. However: int a = b; int b = f(a); should be legal if f is implemented by a primitive stream function that has a nondet input, or if f is a subgraph that has a delay between a and b. In either case, if it is known that f outputs a stream, then the parser could accept the circularity and allow the scheduler to detect the illegal dataflow. If it is not certain that f's output is a stream, then the circularity should be flagged.
3425	Improve error handling when user data structures change.	The following assert happened, we believe, when a user changed their data structures but did not clean. Error: assert(0) failed. File: /home/kerry/gedev_REL5_5/gedev/development/kernel/source/copyStruct.c, Line: 646
3452	Save setting of branch in Fire Table.	In the Fire Table, it may be that a set of boxes appears in more than one branch of the gain hierarchy tree. In such a case, a default branch is set and the user can override this selection. However, the user set branch is not saved as part

		of saving the group settings.
3464	Segmentation: Segmented subgraph output connected to nondet input on a different processor doesn't work.	A recvenq is added that is not in schedule of sender so no peer-to-peer comm happens. Recvenq should be part of sender's schedule.
3471	Editor: Decorations do not erase when leaving build mode.	When in build mode, dynamic queues are decorated with little black squares on the cavnas. Going back to edit mode should erase the decorations, but it does not.
3513	Continue propagating unmapped pointer from tiled to non-corrupting inplace non-tiled dest if tile conversion is not needed.	If an arc source is tiled but the tile sizes are such that the tile is essentially in contiguous memory, then continue to propagate the unmapped memory property as though the source were not tiled. The result of continuing the propagation is that the conversion from unmapped to mapped memory can occur at a deeper level of subscheduling, requiring less mapped memory to be allocated on the target processor.
3526	Report dimension mismatch error when vector is connected to matrix and the matrix dimensions are set.	A stream primitive with multiple inputs, each having the same dimension names, can have the input dimensions set to different sizes due to the fact that the sources to the different inputs have different dimension sizes. This error is caught if the immediate source has the same number of dimensions as the input. However, if the immediate source has fewer dimensions than the input, then some of the dimensions are set by an upstream box. In this case, dimension mismatch errors are not caught. This error is the result of the new feature allowing higher dimension outputs to be connected to lower dimension outputs.
3547	Eredhat warn if passing OS lmiits on sockets/shm transfers.	The OS has limits built into it on the size and number of socket transfers. The ERedhat BSP should query those limits and warn if the application hits them.
3571	Fan out to 1) tiled pointer input with iterated output 2) box with input consume - does not work.	Workaround is to put a copy box between the non pointer input boxes.
3608	Improve failure reporting if group has no boxes	x_copyh box followed by x_mx box with nothing to the right of x_mx makes Gedae segfault because no partition

	with apply methods.	can be found for this box.
3609	Provide warning when Idea parameters connected to stream primitive inputs.	
3612	SE: Dimensions do not propagate through route boxes.	A primitive with a matrix (or vector) output connected to a route box that is then connected to an idea matrix (or vector) input does not work.
3620	Scalar function applied to indexed array variables is treated like an illegal statement.	