API Changes

Method name	Old value (620)	New value (630r)	Marked backward compatible in 620	Interface (620)	Interface (630r)	Rationale for change	Impact
Added Arguments							
ESMF_GridCompSetServices	N/A	userRoutineFound	Yes	15.4.19	16.4.19	Introduced way to test availability without causing error conditions.	No impact
ESMF_CplCompSetServices	N/A	userRoutineFound	Yes	16.4.19	17.4.19	Introduced way to test availability without causing error conditions.	No impact
ESMF_WebServicesLoop	N/A	registrarHost	No	21.4.1	22.4.1	Allows the component service to contact the registrar when started under a batch system.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_WebServicesCplCompLoop	N/A	registrarHost	No	21.4.2	22.4.2	Allows the component service to contact the registrar when started under a batch system.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_FieldGet	N/A	vm	Yes	24.6.41	25.6.44	Offer information about the VM on which the Field was created.	No impact
ESMF_FieldRegridStore	N/A	lineType	Yes	24.6.55	25.6.58	Allowing the user to control the path of the line between two points on a sphere surface.	No impact
ESMF_ArrayCreate	N/A	vm	Yes	26.5.10	27.5.10	Support object creation on a different VM than that of the current context.	No impact
ESMF_ArrayCreate	N/A	vm	Yes	26.5.12	27.5.12	Support object creation on a different VM than that of the current context.	No impact
ESMF_GridCreate	N/A	vm	No	29.6.11	30.6.11	Support object creation on a different VM than that of the current context.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_MeshAddElements	N/A	elementCoords	No	31.4.4	32.4.4	Allows user to set coordinates for element center.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_MeshCreate	N/A	coordSys	No	31.4.6	32.4.6	Allows user to describe the type of coordinates in the Mesh.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_MeshCreate	N/A	coordSys	No	31.4.7	32.4.7	Allows user to describe the type of coordinates in the Mesh.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_MeshCreate	N/A	elementCoords	No	31.4.7	32.4.7	Allows user to set coordinates for element center.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_MeshCreate	N/A	elementDistgrid	No	31.4.8	32.4.8	Allows user to set distribution of elements in created Mesh.	No impact

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ESMF_MeshCreate	N/A	nodalDistgrid	No	31.4.8	32.4.8	Allows user to set distribution of nodes in created Mesh.	No impact
ESMF_MeshCreate	N/A	maskFlag	No	31.4.8	32.4.8	Allows user to specify which location in Mesh to apply mask.	No impact
ESMF_MeshGet	N/A	coordSys	No	31.4.12	32.4.12	Allow user to retrieve type of coordinates from Mesh.	No impact
ESMF_DistGridCreate	N/A	vm	Yes	33.6.4	34.6.4	Allows user to set distribution of elements in created Mesh.	No impact
ESMF_DistGridCreate	N/A	vm	Yes	33.6.5	34.6.5	Allows user to set distribution of elements in created Mesh.	No impact
ESMF_AttributeAdd	N/A	attpack	No	37.11.1	38.11.3	Allows a user to retrieve a handle to an ESMF Attribute package.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_AttributeAdd	N/A	attpack	No	37.11.2	38.11.4	Allows a user to retrieve a handle to an ESMF Attribute package.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_AttributeAdd	N/A	attpack	No	37.11.3	38.11.5	Allows a user to retrieve a handle to an ESMF Attribute package.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_AttributeAdd	N/A	attpack	No	37.11.4	38.11.6	Allows a user to retrieve a handle to an ESMF Attribute package.	If a keyword is not used for the 'rc' argument, it must now be introduced.
ESMF_AttributeAdd	N/A	attpack	No	37.11.5	38.11.7	Allows a user to retrieve a handle to an ESMF Attribute package.	If a keyword is not used for the 'rc' argument, it must now be introduced.
Removed Arguments							
ESMF_MeshCreate	N/A	convert3D	No	31.4.8	32.4.8	The implementation has changed to no longer require this user input.	If argument is used, it must now be removed.
ESMF_MeshCreate	N/A	addMask	No	31.4.8	32.4.8	Broadened functionality by replacing with maskFlag. Consistency with flag argument nomenclature.	If argument is used, it must now be changed to using maskFlag.
Argument Intent/Optional Changes							
ESMF_MeshCreate	N/A	nodalDistgrid	No	31.4.9 intent(in)	32.4.9 intent(in), optional	Remove requirement that user must supply this information.	No impact
ESMF_MeshCreate	N/A	elementDistgrid	No	31.4.9 intent(in)	32.4.9 intent(in), optional	Remove requirement that user must supply this information.	No impact

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keywordEnforcer Added							
ESMF_FieldCreate	N/A	N/A	No	24.6.14	25.6.17	Working towards backward compatibility	If keywords are not used for the optional arguments, they must now be introduced.
ESMF_FieldCreate	N/A	N/A	No	24.6.15	25.6.18	Working towards backward compatibility	If keywords are not used for the optional arguments, they must now be introduced.
ESMF_FieldCreate	N/A	N/A	No	24.6.16	25.6.19	Working towards backward compatibility	If keywords are not used for the optional arguments, they must now be introduced.
ESMF_FieldCreate	N/A	N/A	No	24.6.17	25.6.20	Working towards backward compatibility	If keywords are not used for the optional arguments, they must now be introduced.
ESMF_FieldCreate	N/A	N/A	No	24.6.18	25.6.21	Working towards backward compatibility	If keywords are not used for the optional arguments, they must now be introduced.
ESMF_FieldCreate	N/A	N/A	No	24.6.19	25.6.22	Working towards backward compatibility	If keywords are not used for the optional arguments, they must now be introduced.
ESMF_FieldCreate	N/A	N/A	No	24.6.20	25.6.23	Working towards backward compatibility	If keywords are not used for the optional arguments, they must now be introduced.
ESMF_FieldCreate	N/A	N/A	No	24.6.21	25.6.24	Working towards backward compatibility	If keywords are not used for the optional arguments, they must now be introduced.
ESMF_MeshCreate	N/A	N/A	No	31.4.8	32.4.8	Working towards backward compatibility	If keywords are not used for the optional arguments, they must now be introduced.
ESMF_MeshCreate	N/A	N/A	No	31.4.8	32.4.9	Working towards backward compatibility	If keywords are not used for the optional arguments, they must now be introduced.
Added Methods							

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ESMF_RegridWeightGen	N/A	N/A	N/A	N/A	23.3.2	Allows user to specify distribution of source and destination Meshes.	No impact
ESMF_GridCreate	N/A	N/A	N/A	N/A	30.6.13	Allows user to specify distribution of created Grid.	No impact
ESMF_AttributeAdd	N/A	N/A	N/A	N/A	38.11.1	Allows a user to create Attribute packages using a specification list.	No impact
ESMF_AttributeAdd	N/A	N/A	N/A	N/A	38.11.2	Allows a user to create Attribute packages using a specification list.	No impact
ESMF_AttributeGet	N/A	N/A	N/A	N/A	38.11.9	Allows a user to retrieve Attribute information using an ESMF_AttPack.	No impact
ESMF_AttributeGet	N/A	N/A	N/A	N/A	38.11.10	Allows a user to retrieve Attribute information using an ESMF_AttPack.	No impact
ESMF_AttributeGet	N/A	N/A	N/A	N/A	38.11.11	Allows a user to retrieve Attribute information using an ESMF_AttPack.	No impact
ESMF_AttributeGet	N/A	N/A	N/A	N/A	38.11.12	Allows a user to retrieve Attribute information using an ESMF_AttPack.	No impact
ESMF_AttributeGet	N/A	N/A	N/A	N/A	38.11.18	Allows a user to retrieve Attribute information using an ESMF_AttPack.	No impact
ESMF_AttributeGet	N/A	N/A	N/A	N/A	38.11.21	Allows a user to retrieve Attribute information using an ESMF_AttPack.	No impact
ESMF_AttributeGetAttPack	N/A	N/A	N/A	N/A	38.11.23	Allows a user to retrieve an ESMF_AttPack.	No impact
ESMF_AttributeGetAttPack	N/A	N/A	N/A	N/A	38.11.24	Allows a user to retrieve an ESMF_AttPack.	No impact
ESMF_AttributeRemove	N/A	N/A	N/A	N/A	38.11.36	Allows a user to remove Attributes using an ESMF_AttPack.	No impact
ESMF_AttributeSet	N/A	N/A	N/A	N/A	38.11.38	Allows a user to set Attribute information using an ESMF_AttPack.	No impact
ESMF_AttributeSet	N/A	N/A	N/A	N/A	38.11.39	Allows a user to set Attribute information using an ESMF_AttPack.	No impact
ESMF_AttributeSet	N/A	N/A	N/A	N/A	38.11.40	Allows a user to set Attribute information using an ESMF_AttPack.	No impact
ESMF_UtilIOGetCWD	N/A	N/A	N/A	N/A	49.4.4	Allows user to retrieve the current working directory	No impact