

What is claimed is:

1. A method for generating or modifying a dynamic function embedded within an integrated circuit, wherein said integrated circuit comprises a plurality of building blocks, a first dynamic function, and a specification defining said dynamic function; the method comprising the steps of:

within said integrated circuit, activating said first dynamic function in accordance with said specification; and

within said integrated circuit, generating or modifying said dynamic function upon said activating said first dynamic function.

2. The method of claim 1, further comprising the step of: within said integrated circuit analyzing an aspect of said integrated circuit, wherein said aspect being one member of a group consisting of a security aspect of said integrated circuit, a functionality aspect of said integrated circuit, a performance aspect of said integrated circuit, a usability aspect of said integrated circuit, a reliability aspect of said integrated circuit, an environment aspect of said integrated circuit, hardware aspect of said integrated circuit, software aspect of said integrated circuit and maintainability aspect of said integrated circuit.

3. A method for generating or modifying an architecture of an electronic entity ; the method comprising the steps of:

within a integrated circuit, analyzing an aspect of said electronic entity; wherein said electronic entity having connectivity with said integrated circuit; wherein said aspect being one member of a group consisting of a security aspect of said integrated circuit, a functionality aspect of said integrated circuit, a performance aspect of said integrated circuit, a usability aspect of said integrated circuit, a reliability aspect of said integrated circuit, an environment aspect of said integrated circuit, hardware aspect of said integrated circuit, software aspect of said integrated circuit and maintainability aspect of said integrated circuit;

within said integrated circuit, analyzing results and providing analysis-results; and

within said integrated circuit, modifying or generating an architecture of said electronic entity with accordance to said analysis-results; wherein said architecture comprises one member of a group consisting of: one or more building blocks from which said electronic entity being built, output-structure or input-structure or behavior or stimuli of said building blocks, connectivity between said building blocks, connectivity between said integrated circuit and said electronic entity, operation of said electronic entity, functionality of said electronic entity, external environment of said electronic entity, internal environment of said electronic entity, internal environment of said building blocks ,status of

said electronic entity, status of said building blocks, parameters of said building blocks, dynamic function and parameters of said electronic entity.

4. The method of claim 1 further comprising the steps of
within said integrated circuit, analyzing connectivity between said dynamic function and an electronic entity ;

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within said integrated circuit, providing analysis-results; and

within said integrated circuit, modifying said connectivity, in accordance with said analysis-results.

5. The method of claim 1, further comprising :

within said integrated circuit analyzing said specification or said integrated circuit and providing a second specification;

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within said integrated circuit, activating said first dynamic function in accordance with said second specification; and

within said integrated circuit, generating or modifying said dynamic function upon said activating said first dynamic function.

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6. The method of claim 1, further comprising :

deactivating said first dynamic function as a result of said generating or said modifying said dynamic function.

7. An integrated circuit, comprises plurality of building blocks, a first dynamic function, and a specification defining a second dynamic function; wherein said integrated circuit being operable for activating said first dynamic function in accordance with said specification and for generating or modifying said second dynamic function upon said activating said first dynamic function.

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8. A method for modifying or generating an architecture of an integrated circuit; the method comprises the steps of :

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within said integrated circuit analyzing an aspect of said integrated circuit; wherein said aspect being one member of a group consisting of security, performance, usability, reliability, environment, functionality, hardware, software and maintainability aspect,

within said integrated circuit determining results of said analysis; and

within said integrated circuit modifying or generating architecture of said integrated circuit in accordance with said results, wherein said architecture comprises one member of a group consisting of: one or more building blocks from which said integrated circuit being built, output-structure or input-structure or behavior or stimuli of said building blocks, connectivity between said building blocks, connectivity between said integrated circuit and another electronic entity, operation of said integrated circuit, functionality of said integrated circuit, external environment of said integrated circuit, internal environment of integrated

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circuit, internal environment of said building blocks ,status of said integrated circuit, status of said building blocks, parameters of said building blocks, dynamic function, and parameters of said integrated circuit; and wherein said modifying or generating comprises one member of a group consisting of amending parameters, generating, adding, removing, connecting, disconnecting, activating, deactivating, removing a generator dynamic function as a result of generating a second dynamic function by said generator, and injecting signals. 5

9. The method of claim 1, wherein said building block being a dynamic building block.

10. The method of claim 8, wherein said analyzing, said determining and said modifying or generating being performed by a dynamic function within said integrated circuit. 10

11. An integrated circuit operable for modifying or generating an architecture of an electronic entity, said integrated circuit comprises one or more dynamic functions wherein said one or more dynamic functions being operable for analyzing an aspect of said electronic entity; wherein said aspect being one member of a group consisting of security, performance, usability, reliability, environment, functionality, hardware, software and maintainability aspect; wherein said electronic entity having connectivity with said integrated circuit; wherein said dynamic function further operable for providing analysis-results of said analyzing and for modifying or generating an architecture of said electronic entity with accordance to said analysis-results; wherein said architecture comprises one member of a group consisting of: one or more building blocks from which said electronic entity being built, output-structure or input-structure or behavior or stimuli of said building blocks, connectivity between said building blocks, connectivity between said integrated circuit and said electronic entity, operation of said electronic entity, functionality of said electronic entity, external environment of said electronic entity , internal environment of said electronic entity, internal environment of said building blocks ,status of said , electronic entity status of said building blocks, parameters of said building blocks, dynamic function and parameters of said electronic entity. 15 20 25

12. A integrated circuit; said integrated circuit comprises one or more dynamic functions; said one or more dynamic functions being operable for analyzing an aspect of said integrated circuit, determining results of said analysis and modifying or generating an architecture of said integrated circuit in accordance with said results; wherein said aspect being one member of a group consisting of security, performance, usability, reliability, environment, functionality, hardware, software and maintainability aspect; wherein said architecture comprises one member of a group consisting of: one or more building blocks from which said integrated circuit being built, output-structure or input-structure or behavior or stimuli of said building blocks, connectivity between said building blocks, connectivity 30 35

between said integrated circuit and another electronic entity, operation of said integrated circuit, functionality of said integrated circuit, external environment of said integrated circuit, internal environment of integrated circuit, internal environment of said building blocks ,status of said integrated circuit, status of said building blocks, dynamic function, parameters of said building blocks and parameters of said integrated circuit.

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13. A design structure tangibly embodied in a machine readable medium for designing, manufacturing of an integrated circuit said design structure comprising structure of said integrated circuit; said integrate circuit structure comprising one or more dynamic functions; said one or more dynamic functions being operable for analyzing an aspect of said integrated circuit, for determining results of said analysis and for modifying or generating architecture of said integrated circuit in accordance with said results; wherein said aspect being one member of a group consisting of security, performance, usability, reliability, environment, functionality, hardware, software and maintainability aspect; wherein said architecture comprises one member of a group consisting of: one or more building blocks from which said integrated circuit being built, output-structure or input-structure or behavior or stimuli of said building blocks, connectivity between said building blocks, connectivity between said integrated circuit and another electronic entity, operation of said integrated circuit, functionality of said integrated circuit, external environment of said integrated circuit, internal environment of integrated circuit, internal environment of said building blocks ,status of said integrated circuit, status of said building blocks, dynamic function, parameters of said building blocks and parameters of said integrated circuit.

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14. A design structure tangibly embodied in a machine readable medium for designing, manufacturing of an integrated circuit said design structure comprising structure of said integrated circuit ; said structure comprising plurality of building blocks, a first dynamic function, and a specification defining a second dynamic function; wherein said integrated circuit being adapted for activating said first dynamic function in accordance with said specification and for generating or modifying said second dynamic function upon said activating said first dynamic function.

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15. A design structure tangibly embodied in a machine readable medium for designing, manufacturing of an integrated circuit said integrated circuit being operable for modifying or generating an architecture of an electronic entity, said integrated circuit comprises one or more dynamic functions wherein said one or more dynamic functions being operable for analyzing an aspect of said electronic entity; wherein said aspect being one member of a group consisting of security, performance, usability, reliability, environment, functionality, hardware, software and maintainability aspect; wherein said electronic entity having

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connectivity with said integrated circuit; wherein said dynamic function further operable for providing analysis-results of said analyzing and for modifying or generating an architecture of said electronic entity with accordance to said analysis-results; wherein said architecture comprises one member of a group consisting of: one or more building blocks from which said electronic entity being built, output-structure or input-structure or behavior or stimuli of said building blocks, connectivity between said building blocks, connectivity between said integrated circuit and said electronic entity, operation of said electronic entity, functionality of said electronic entity, external environment of said electronic entity , internal environment of said electronic entity, internal environment of said building blocks ,status of said , electronic entity status of said building blocks, parameters of said building blocks, dynamic function and parameters of said electronic entity.

What is claimed is:

1. A method for generating or implementing or modifying a dynamic function embedded within an integrated circuit, the method comprising the steps of:

by a second dynamic function embedded within said integrated circuit, autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology, generating or implementing or modifying architecture of said dynamic function;

and

within said integrated circuit and uniquely to the device or to the environment autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology, modifying architecture of said second dynamic function;

wherein said modifying of said architecture of said dynamic function or said second dynamic function comprises one member of a group consisting of: modifying one or more building blocks from which said dynamic function or said second dynamic function being built, modifying type of building block, modifying routing between building blocks, replacing a building block with a second building block wherein said second building block constructed to perform same or different functionality, transforming or moving or destructing or constructing or reconstructing a building block of said dynamic function or of said second dynamic function, modifying internal environment of said building block; wherein said generating comprising routing said building blocks; wherein said building block comprises one member of a group consisting of a transistor, a substrate, a gate, a flip flop, a latch, a metal layer and a depletion layer.

2. The method of claim 1, further comprising the step of: by said second dynamic function or said dynamic function and within said integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology, analyzing an aspect of said integrated

circuit, wherein said aspect being one member of a group consisting of a security aspect of said integrated circuit, a functionality aspect of said integrated circuit, a performance aspect of said integrated circuit, a usability aspect of said integrated circuit, a reliability aspect of said integrated circuit, an environment aspect of said integrated circuit, hardware aspect of said integrated circuit, software aspect of said integrated circuit and maintainability aspect of said integrated circuit; wherein said generating or said implementation or said modifying said dynamic function or said second dynamic function being in accordance with result of said analysis, wherein said analysis being changed in accordance with said modifying architecture of said second dynamic function to thereby provide analysis which is unique to the type or functionality or environment of said integrated circuit. 5 10

3. A method for generating, or implementing or modifying an architecture of an electronic entity, by a dynamic function embedded within an integrated circuit wherein said electronic entity being externally connected to an integrated circuit for monitoring or controlling said electronic entity by said integrated circuit; the method comprising the steps of: 15

within said integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology, analyzing an aspect of said electronic entity for securing the electronic entity or for improving the performance or for recovering or for track changing or for mitigating or for optimization or behavior of said electronic entity; wherein said aspect of said electronic entity being one member of a group consisting of a security aspect of said electronic entity, a functionality aspect of said electronic entity, a performance aspect of said electronic entity, a usability aspect of said electronic entity, a reliability aspect of said electronic entity, an environment aspect of said electronic entity, hardware aspect of said electronic entity, software aspect of said electronic entity and maintainability aspect of said electronic entity; 20 25

within said integrated circuit, autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology analyzing results and providing analysis-results; and

within said integrated circuit, autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology 5
modifying or generating or implementing an architecture of said electronic entity with accordance to said analysis-results; wherein said architecture comprises one member of a group consisting of: one or more building blocks from which said electronic entity being built, routing between said building blocks, routing between said integrated circuit and said electronic entity, operation of said electronic entity, 10
functionality of said electronic entity, external environment of said electronic entity, internal environment of said electronic entity, internal environment of said building blocks, status of said building blocks, parameters of said building blocks, changing location on circuitry of said building blocks;

wherein said building block comprises one member of a group consisting of a 15
transistor, a substrate, a gate, a flip flop, a latch, a metal layer and a depletion layer;

wherein said analysis further comprising one member of a group consisting of analyzing results of challenging said integrated circuit, majority vote, performing cryptology, performing statistics, performing prediction emulation, performing simulation, performing authentication, performing validation, performing 20
compression, performing risk analysis and risk assessment, performing cognitive analysis artificial intelligence (AI) and performing game theory and wherein said analyzing and said modifying being for securing said electronic entity or for improving performance of said electronic entity or for recovering said electronic entity or for track changes in said electronic entity or for mitigating or for 25
optimizing structure or behavior of said electronic entity wherein said generating of said dynamic function comprising one member of a group consisting of routing one member of a group consisting a transistor a substrate a metal layer and a depletion layer.

4. The method of claim 2 wherein said analysis further comprising
one member of a group consisting of performing cryptology, performing
statistics, performing prediction emulation, performing simulation, performing
authentication, performing validation, performing compression, performing risk
analysis and risk assessment, performing cognitive analysis artificial intelligence 5
(AI) and performing game theory.
5. The method of claim 1, wherein said integrated circuit further comprises
specification defining said dynamic function wherein the method further
comprising:
within said integrated circuit analyzing said specification or said 10
integrated circuit and generating or changing said specification in accordance with
analysis results;
within said integrated circuit, activating said second dynamic function
in accordance with said specification; and
within said integrated circuit, generating or implementing or 15
modifying said dynamic function upon said activating said second dynamic
function.
6. The method of claim 1, further comprising :
destroying said second dynamic function as a result of said generating
or said implementing or said modifying said dynamic function. 20
7. An integrated circuit, comprises, a first dynamic function; wherein said first
dynamic function being operable for generating or implementing or modifying
architecture of a second dynamic function wherein said integrated circuit being
operable for uniquely to the device and to the environment, autonomously and
without utilizing programmable hardware with fixed and repetitive configuration 25
options technology, modifying architecture of said first dynamic function; wherein
said modifying of said architecture of said first dynamic function or said second
dynamic function comprises one member of a group consisting of: modifying one or
more building blocks from which said dynamic function or said first dynamic

function being built, modifying type of building block, modifying routing between, replacing a building block with a second building block wherein said second building block constructed to perform same or different functionality, transforming or moving or destructing or constructing or reconstructing a building block of said dynamic function or of said first dynamic function, and; wherein said generating comprising routing; wherein said building block comprises one member of a group consisting of a transistor, a substrate, a gate, a flip flop, a latch, a metal layer and a depletion layer. 5

8. A method for modifying or generating or implementing architecture of an integrated circuit; the method comprises the steps of: 10

within said integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology analyzing an aspect of said integrated circuit; wherein said aspect being one member of a group consisting of security, performance, usability, reliability, environment, functionality, hardware, software and maintainability aspect, 15

within said integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology determining results of said analysis; and

within said integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology modifying or generating or implementing architecture of said integrated circuit in accordance with said results, wherein said architecture comprises one member of a group consisting of: location of a building block on circuitry, one or more building blocks from which said integrated circuit being built, type of said building blocks, behavior or stimuli of said building blocks, routing between internal environment of said building blocks, status of said building blocks, parameters of said building blocks; and wherein said modifying or generating comprises one member of a group consisting of amending parameters, generating, adding, removing, routing, disconnecting, activating building blocks, deactivating building blocks; wherein said 20 25

building block comprises one member of a group consisting of a transistor, a substrate, a gate, a flip flop, a latch, a metal layer and a depletion layer.

9. The method of claim 2, wherein architecture of said dynamic function being continuously and autonomously changed within said integrated circuit and without utilizing programmable hardware with fixed and repetitive configuration options technology according to results of said analysis. 5

10. The method of claim 8, wherein said analyzing, said determining and said modifying or generating or said implementing, being performed autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology, by a dynamic function within said integrated circuit. 10

11. An integrated circuit operable for modifying or generating or implementing an architecture of an electronic entity, wherein said electronic entity being externally connected to said integrated circuit; said integrated circuit comprises one or more dynamic functions wherein said one or more dynamic functions being operable for within the integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology analyzing an aspect of said electronic entity; wherein said aspect being one member of a group consisting of security, performance, usability, reliability, environment, functionality, hardware, software and maintainability aspect; wherein said electronic entity having routing with said integrated circuit; wherein said dynamic function further operable for within the integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology providing analysis-results of said analyzing and for within the integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology modifying or generating or implementing an architecture of said electronic entity with accordance to said analysis-results; wherein said architecture comprises one member of a group consisting of: location on circuitry of one or more building blocks from which said electronic entity being built, building block type, or behavior of said building 15 20 25

blocks, routing between said building blocks, internal environment of said building blocks, status of said building blocks, parameters of said building blocks, wherein said building block comprises one member of a group consisting of a transistor, a substrate, a gate, a flip flop, a latch, a metal layer and a depletion layer.

12. A integrated circuit; said integrated circuit comprises an implementer system method 201 and an analysis system method 2013; said analysis system method 2013 being operable for within the integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology, analyzing an aspect of said integrated circuit, determining results of said analysis and said implementer system method 201 being adapted for within said integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology, modifying or generating or implementing an architecture of said integrated circuit in accordance with said results; wherein said aspect being one member of a group consisting of security, performance, usability, reliability, environment, functionality, hardware, software and maintainability aspect; wherein said architecture comprises one member of a group consisting of: one or more building blocks from which said integrated circuit being built, building blocks type, location on circuitry of said building block, or behavior of said building blocks, routing between said building blocks, internal environment of said building blocks, status of said building blocks, parameters of said building blocks; wherein said generating of said dynamic function comprising routing building blocks; wherein said building block comprises one member of a group consisting of a transistor, a substrate, a gate, a flip flop, a latch, a metal layer and a depletion layer.

13. A design structure tangibly embodied in a machine readable medium for designing, manufacturing of an integrated circuit said design structure comprising structure of said integrated circuit; said integrate circuit structure comprising one or more dynamic functions; said one or more dynamic functions being operable for within said integrated circuit autonomously and without utilizing programmable

hardware with fixed and repetitive configuration options technology analyzing an aspect of said integrated circuit, for within said integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology determining results of said analysis and for within said integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology modifying or generating or implementing architecture of said integrated circuit in accordance with said results; wherein said aspect being one member of a group consisting of security, performance, usability, reliability, environment, functionality, hardware, software and maintainability aspect; wherein said architecture comprises one member of a group consisting of: location on circuitry of one or more building blocks from which said integrated circuit being built, or behavior or stimuli or type of said building blocks, routing between or within said building blocks, internal environment of said building blocks, status of said building blocks, parameters of said building blocks wherein said building block comprises one member of a group consisting of a transistor, a substrate, a gate, a flip flop, a latch, a metal layer and a depletion layer.

14. A design structure tangibly embodied in a machine readable medium for designing, manufacturing of an integrated circuit said design structure comprising structure of said integrated circuit; said structure comprising, a first dynamic function; wherein said first dynamic function being adapted for within said integrated circuit, autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology generating or implementing or modifying a second dynamic function or an electronic entity externally connected to said integrated circuit, upon said activating said first dynamic function; wherein said integrated circuit being adapted for within said integrated circuit and uniquely to the device and to the environment and autonomously without utilizing programmable hardware with fixed and repetitive configuration options technology, modifying architecture of said first dynamic function; wherein said modifying of said

architecture of said first dynamic function or said dynamic function comprises one member of a group consisting of:

changing location of a building block on circuitry, modifying one or more building blocks from which said first dynamic function or said second dynamic function being built, modifying type of building block, modifying routing between said building blocks, replacing a building block with a second building block wherein said second building block constructed to perform different or same functionality, transforming or moving or destructing or constructing or reconstructing a building block of said dynamic function or of said first dynamic function, and; wherein said generating of said dynamic function comprising routing one or more building blocks; wherein said building block comprises one member of a group consisting of a transistor, a substrate, a gate, a flip flop, a latch, a metal layer and a depletion layer.

15. A design structure tangibly embodied in a machine readable medium for designing, manufacturing of an integrated circuit said integrated circuit being operable for modifying or generating or implementing an architecture of an electronic entity, wherein said electronic entity being externally connected to said integrated circuit said integrated circuit comprises one or more dynamic functions wherein said one or more dynamic functions being operable for within said integrated circuit autonomously and without utilizing programmable hardware with fixed and repetitive configuration options technology analyzing an aspect of said electronic entity; wherein said aspect being one member of a group consisting of security, performance, usability, reliability, environment, functionality, hardware, software and maintainability aspect; wherein said dynamic function further operable for providing analysis-results of said analyzing and for modifying or generating an architecture of said electronic entity with accordance to said analysis-results; wherein said architecture comprises one member of a group consisting of: location on circuitry of one or more building blocks from which said electronic entity being built, behavior or stimuli of said building blocks, routing between said building

blocks, routing between said building blocks internal environment of said building blocks, status of said building blocks, parameters of said building blocks, type of building blocks, wherein said building block comprises one member of a group consisting of a transistor, a substrate, a gate, a flip flop, a latch, a metal layer and a depletion layer.