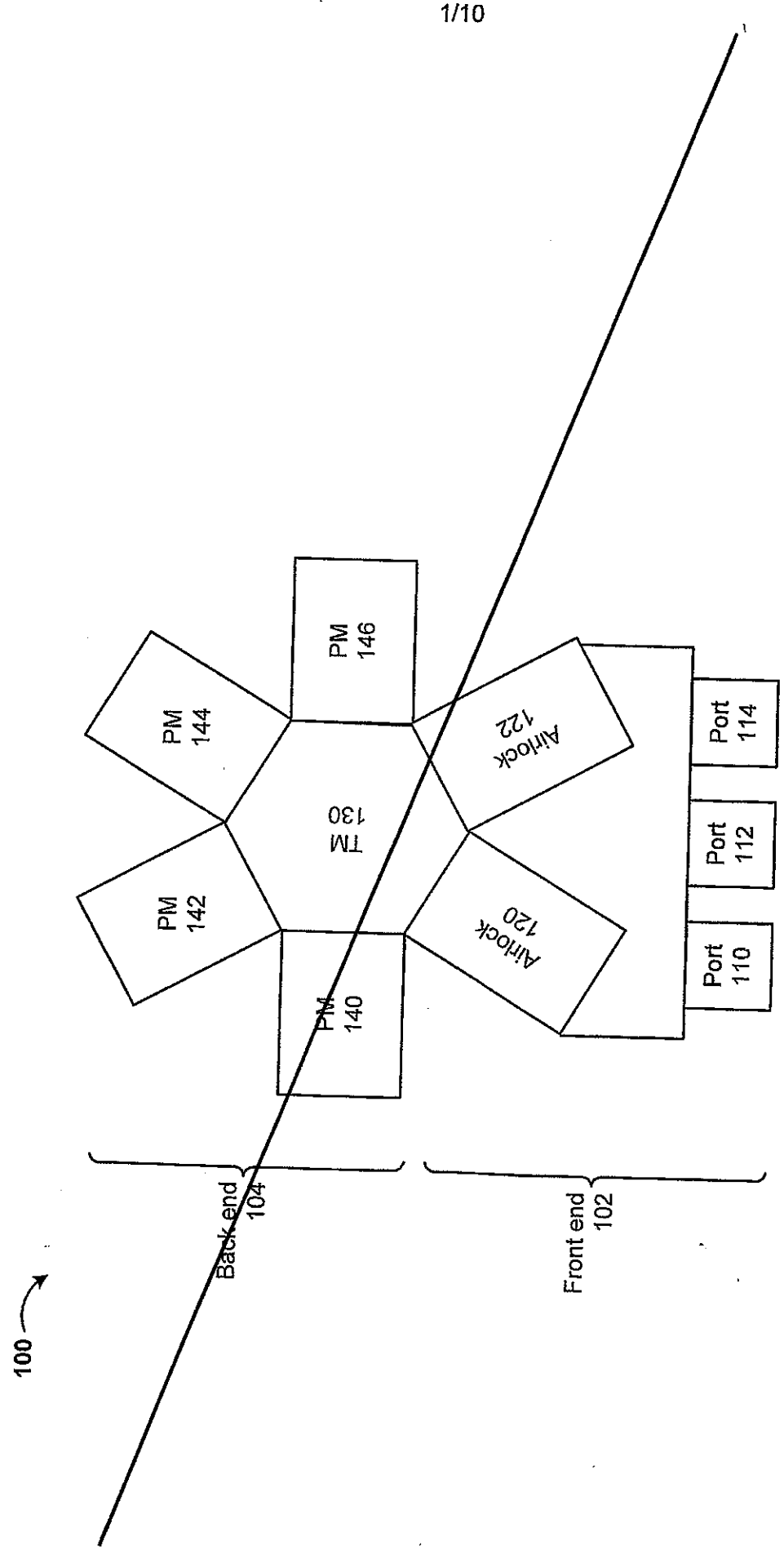


FIG. 1
Prior Art

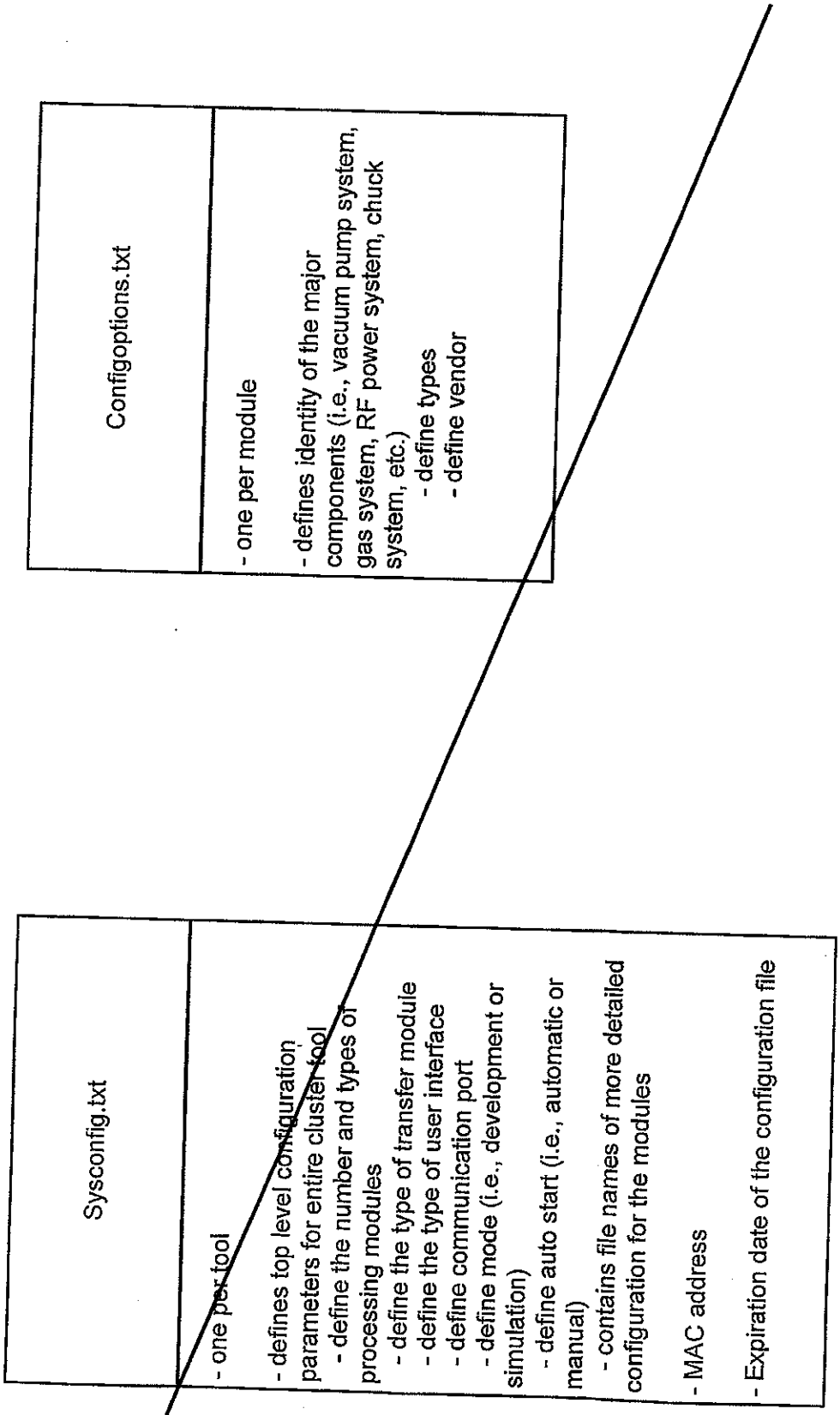

Sysconfig.txt
- one per tool
- defines top level configuration parameters for entire cluster tool
- define the number and types of processing modules
- define the type of transfer module
- define the type of user interface
- define communication port
- define mode (i.e., development or simulation)
- define auto start (i.e., automatic or manual)
- contains file names of more detailed configuration for the modules
- MAC address
- Expiration date of the configuration file
Configoptions.txt
- one per module
- defines identity of the major components (i.e., vacuum pump system, gas system, RF power system, chuck system, etc.)
- define types
- define vendor

FIG. 2

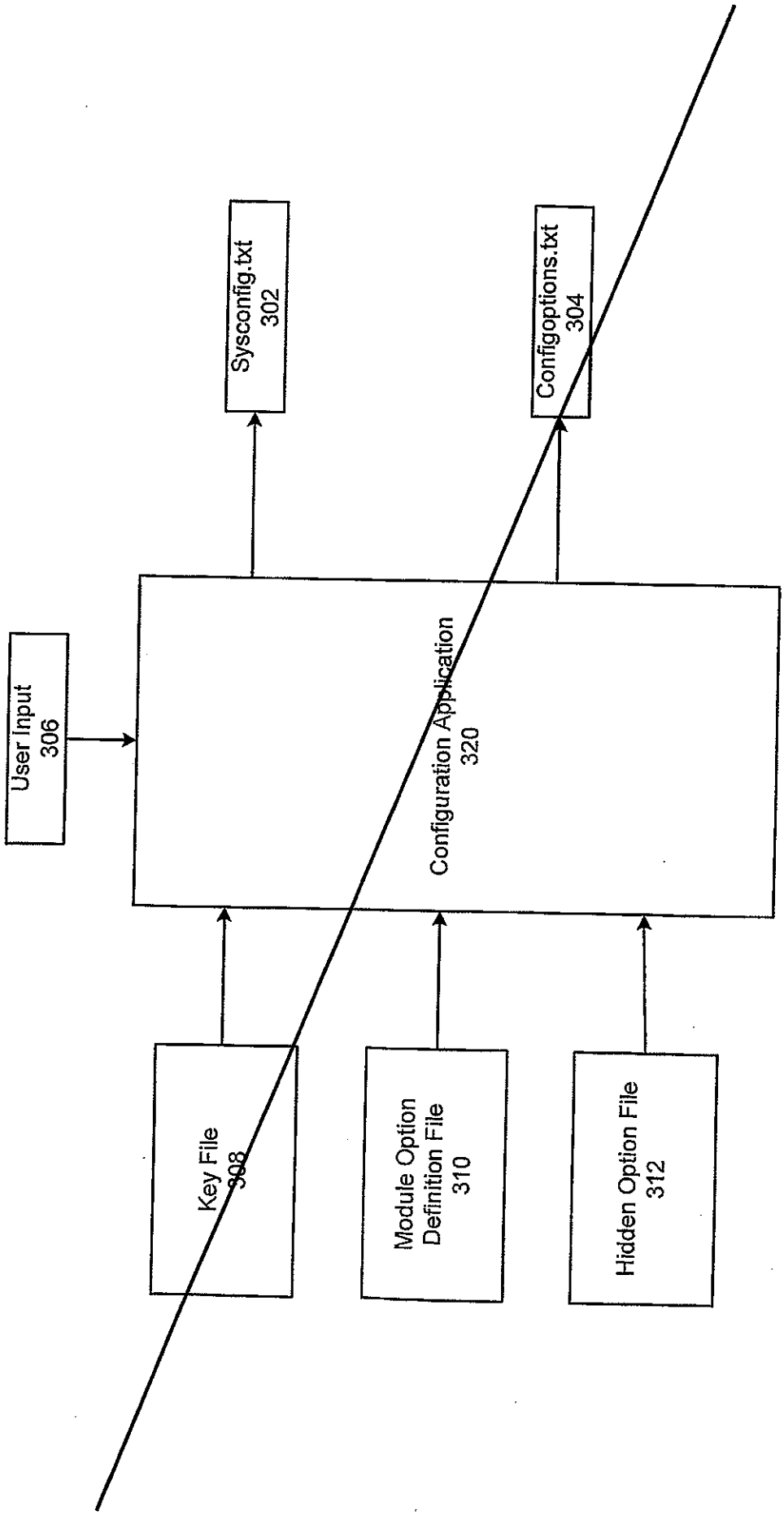

Sysconfig.txt
302
Configoptions.txt
304
User Input
306
Configuration Application
320
Key File
308
Module Option
Definition File
310
Hidden Option File
312

FIG. 3A

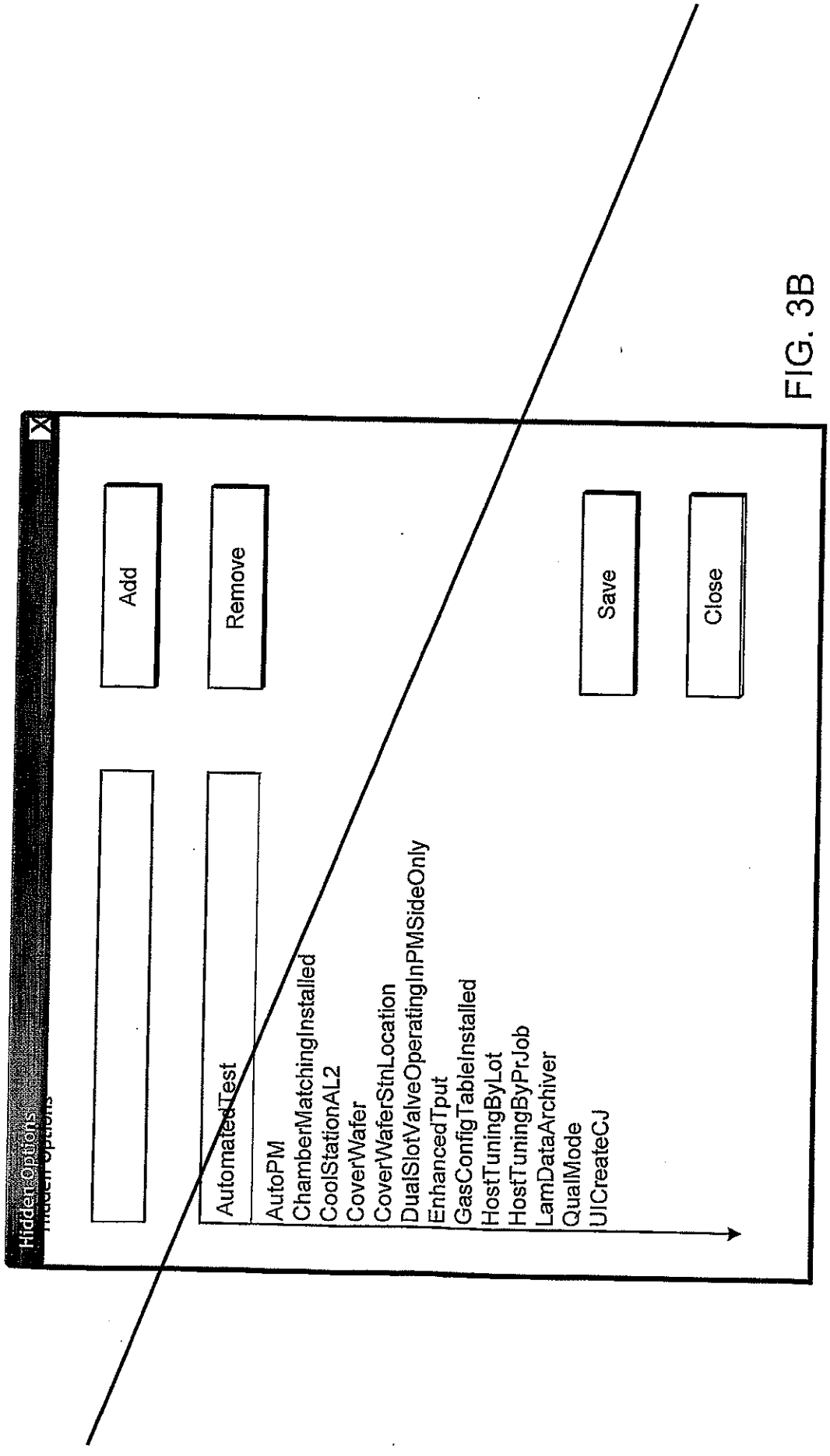

Hidden Options
Add
Remove
Save
Close
AutomatedTest
AutoPM
ChamberMatchingInstalled
CoolStationAL2
CoverWafer
CoverWaferStnLocation
DualSlotValveOperatingInPMSideOnly
EnhancedTput
GasConfigTableInstalled
HostTuningByLot
HostTuningByPrJob
LamDataArchiver
QualMode
UICreateCJ

FIG. 3B

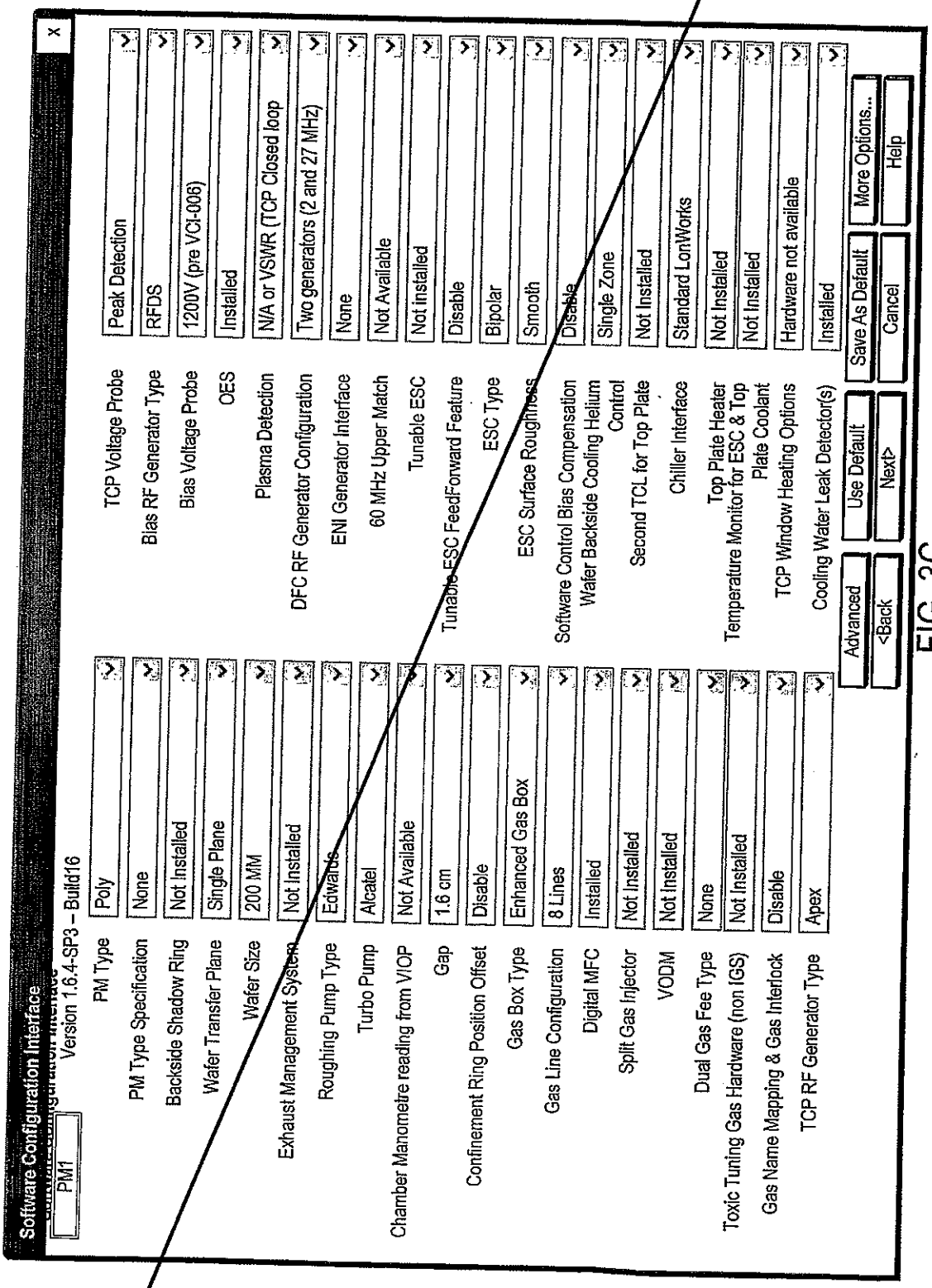

Software Configuration Interface
PM1
Version 1.6.4-SP3 – Build16
PM Type
Poly
PM Type Specification
None
Backside Shadow Ring
Not Installed
Wafer Transfer Plane
Single Plane
Wafer Size
200 MM
Exhaust Management System
Not Installed
Roughing Pump Type
Edwards
Turbo Pump
Alcatel
Chamber Manometre reading from VIOP
Not Available
Gap
1.6 cm
Confinement Ring Position Offset
Disable
Gas Box Type
Enhanced Gas Box
Gas Line Configuration
8 Lines
Digital MFC
Installed
Split Gas Injector
Not Installed
VODM
Not Installed
Dual Gas Fee Type
None
Toxic Tuning Gas Hardware (non IGS)
Not Installed
Gas Name Mapping & Gas Interlock
Disable
TCP RF Generator Type
Apex
TCP Voltage Probe
Peak Detection
Bias RF Generator Type
RFDS
Bias Voltage Probe
1200V (pre VCI-006)
OES
Installed
Plasma Detection
N/A or VSWR (TCP Closed loop
DFC RF Generator Configuration
Two generators (2 and 27 MHz)
ENI Generator Interface
None
60 MHz Upper Match
Not Available
Tunable ESC
Not installed
Tunable ESC FeedForward Feature
Disable
ESC Type
Bipolar
ESC Surface Roughness
Smooth
Software Control Bias Compensation
Disable
Wafer Backside Cooling Helium Control
Single Zone
Second TCL for Top Plate
Not Installed
Chiller Interface
Standard LonWorks
Top Plate Heater
Not Installed
Temperature Monitor for ESC & Top Plate Coolant
Not Installed
TCP Window Heating Options
Hardware not available
Cooling Water Leak Detector(s)
Installed
Advanced
Use Default
Save As Default
More Options...
<Back
Next>
Cancel
Help

FIG. 3C

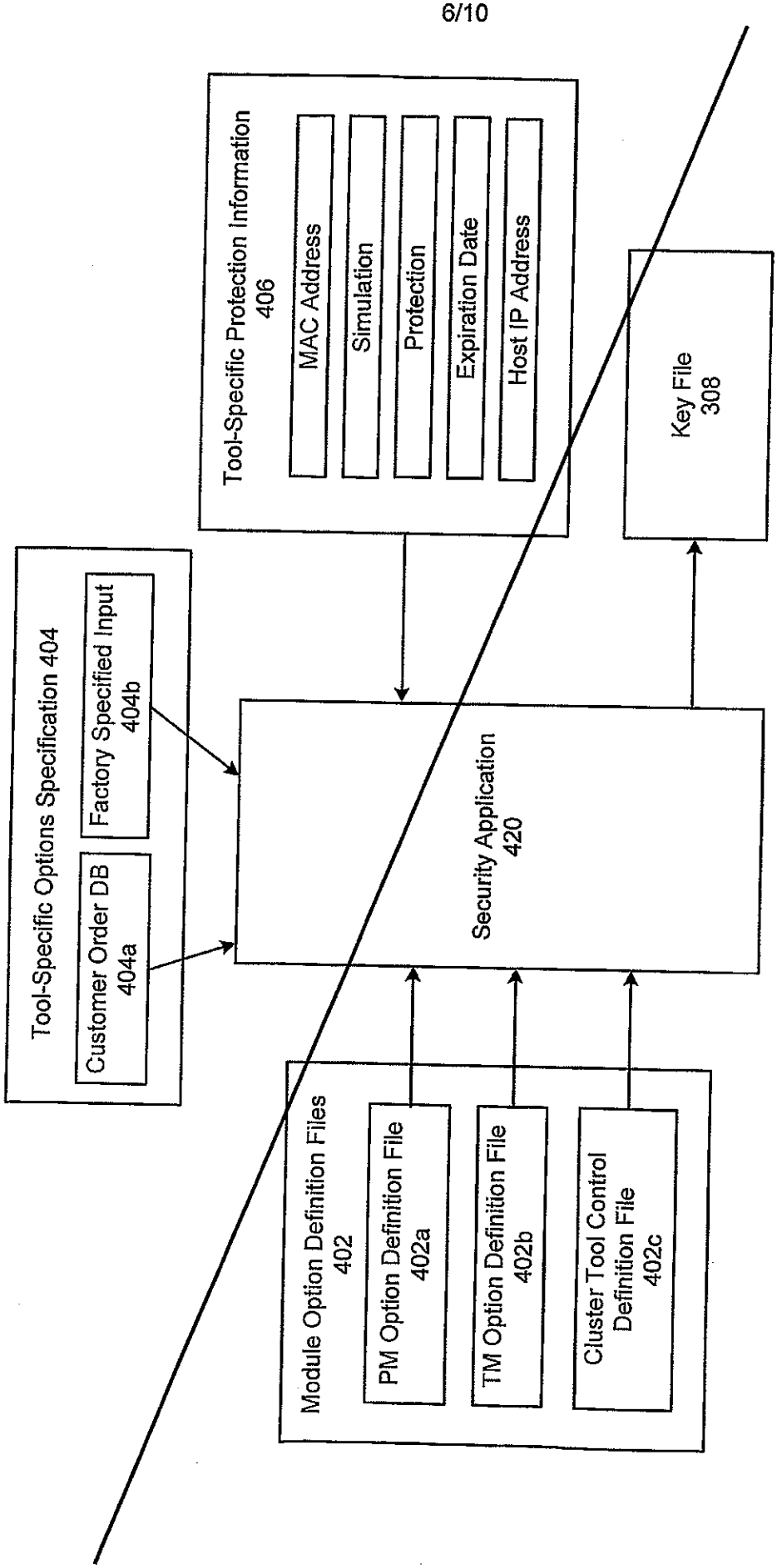

Tool-Specific Protection Information
406
MAC Address
Simulation
Protection
Expiration Date
Host IP Address
Key File
308
Tool-Specific Options Specification 404
Factory Specified Input
404b
Customer Order DB
404a
Security Application
420
Module Option Definition Files
402
PM Option Definition File
402a
TM Option Definition File
402b
Cluster Tool Control
Definition File
402c

FIG. 4

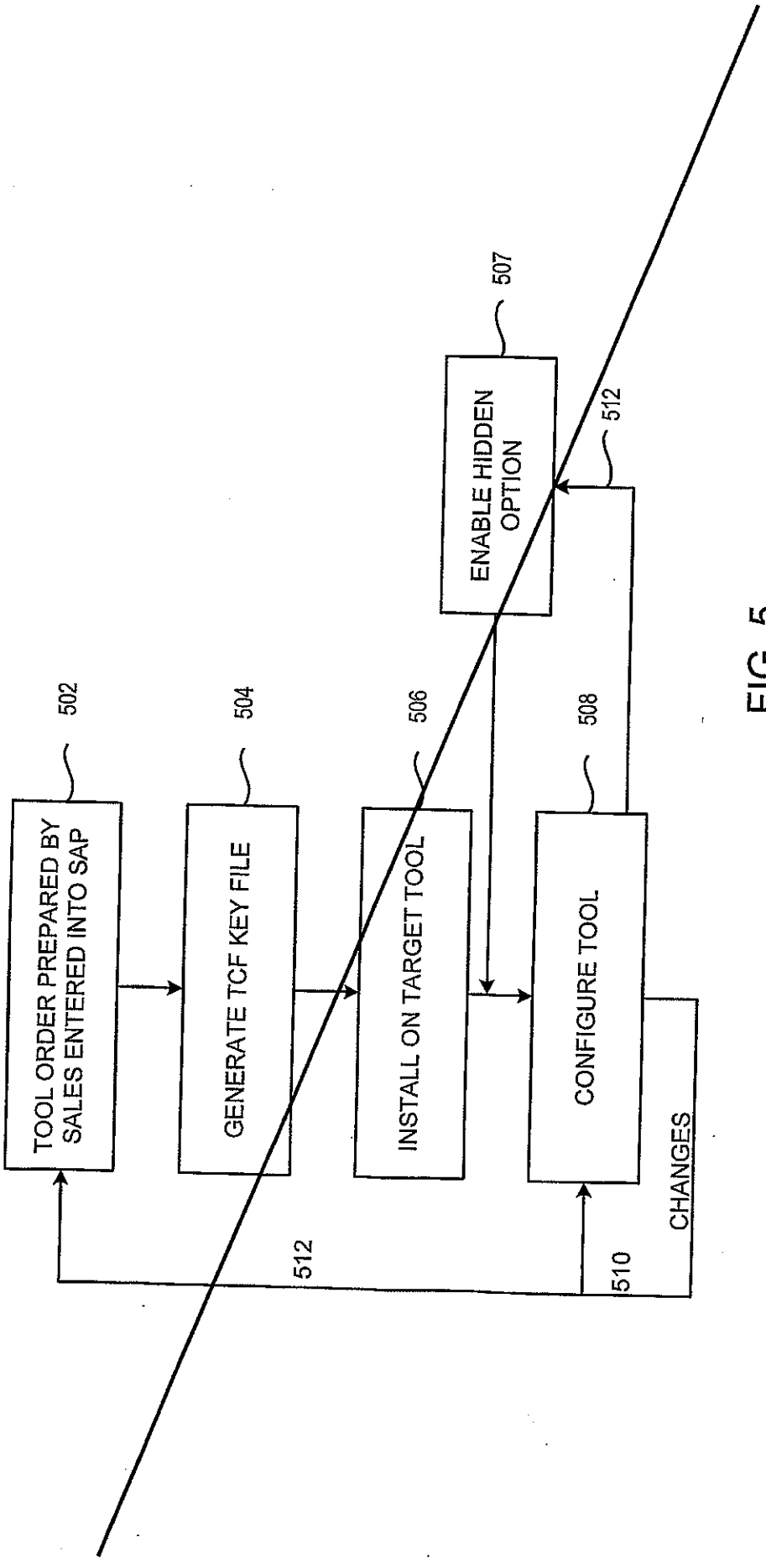

TOOL ORDER PREPARED BY SALES ENTERED INTO SAP
502
GENERATE TCF KEY FILE
504
INSTALL ON TARGET TOOL
506
CONFIGURE TOOL
508
ENABLE HIDDEN OPTION
507
512
512
510
CHANGES

FIG. 5

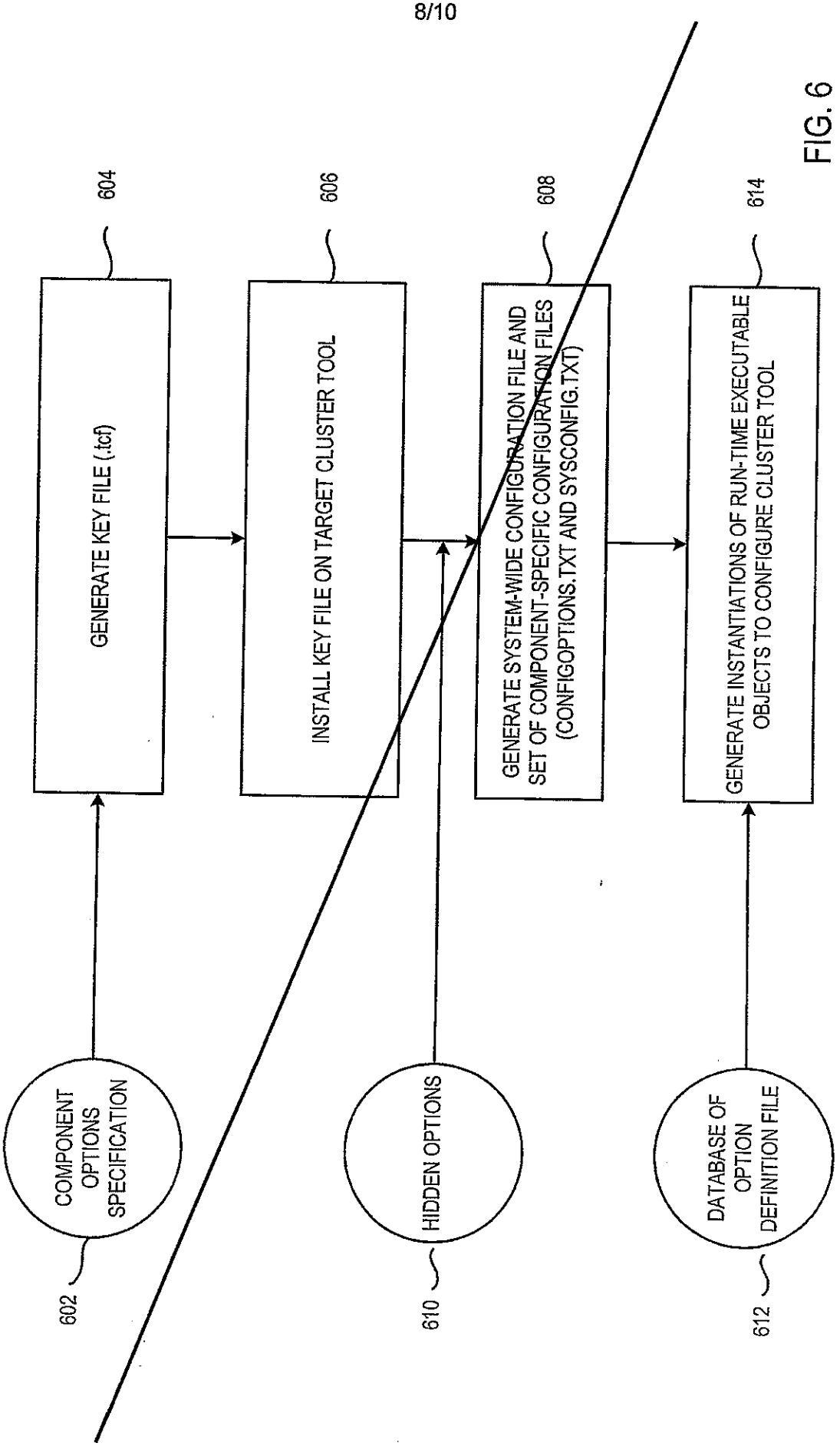

604
606
608
614
GENERATE KEY FILE (.tcf)
INSTALL KEY FILE ON TARGET CLUSTER TOOL
GENERATE SYSTEM-WIDE CONFIGURATION FILE AND SET OF COMPONENT-SPECIFIC CONFIGURATION FILES (CONFIGOPTIONS.TXT AND SYSCONFIG.TXT)
GENERATE INSTANTIATIONS OF RUN-TIME EXECUTABLE OBJECTS TO CONFIGURE CLUSTER TOOL
COMPONENT OPTIONS SPECIFICATION
HIDDEN OPTIONS
DATABASE OF OPTION DEFINITION FILE
602
610
612

FIG. 6

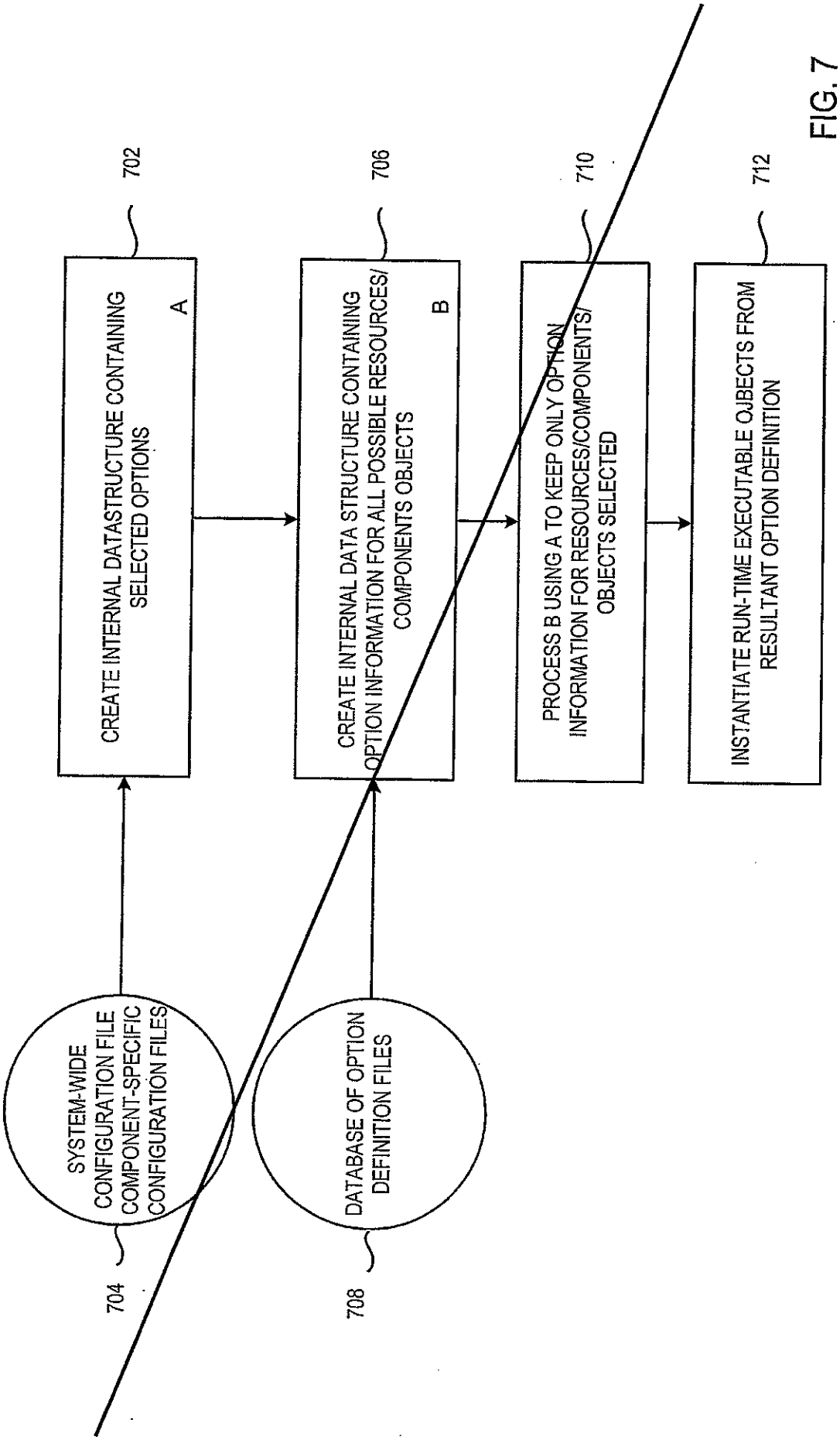

SYSTEM-WIDE CONFIGURATION FILE COMPONENT-SPECIFIC CONFIGURATION FILES
704
DATABASE OF OPTION DEFINITION FILES
708
CREATE INTERNAL DATASTRUCTURE CONTAINING SELECTED OPTIONS A
702
CREATE INTERNAL DATA STRUCTURE CONTAINING OPTION INFORMATION FOR ALL POSSIBLE RESOURCES/ COMPONENTS OBJECTS B
706
PROCESS B USING A TO KEEP ONLY OPTION INFORMATION FOR RESOURCES/COMPONENTS/ OBJECTS SELECTED
710
INSTANTIATE RUN-TIME EXECUTABLE OJBECTS FROM RESULTANT OPTION DEFINITION
712

FIG. 7

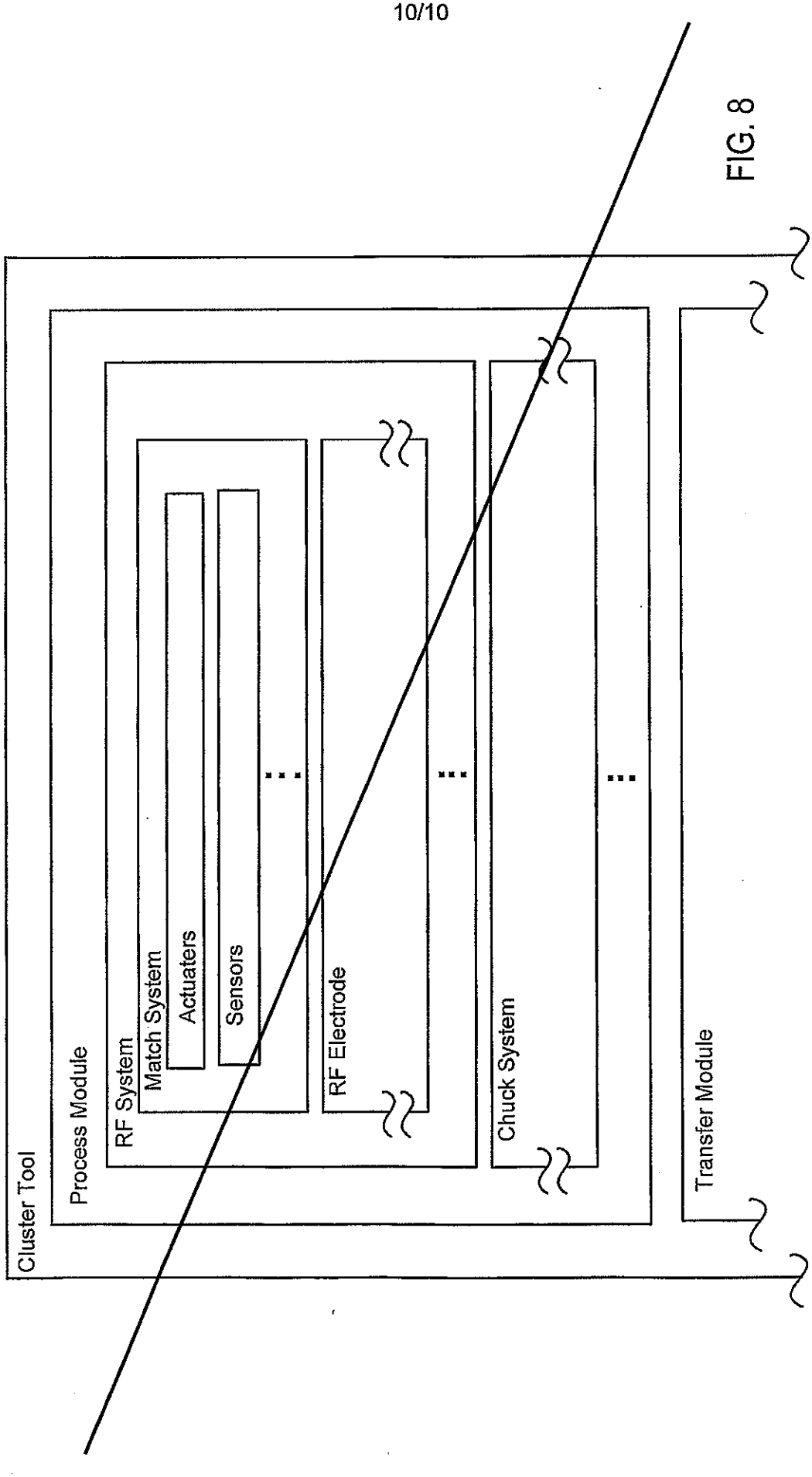

Cluster Tool
Process Module
RF System
Match System
Actuaters
Sensors
RF Electrode
Chuck System
Transfer Module

FIG. 8

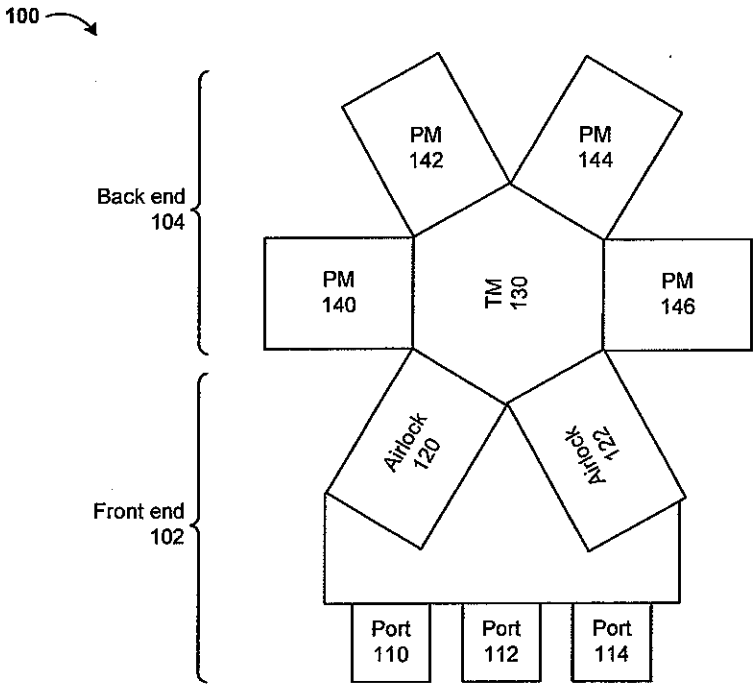


FIG. 1
Prior Art

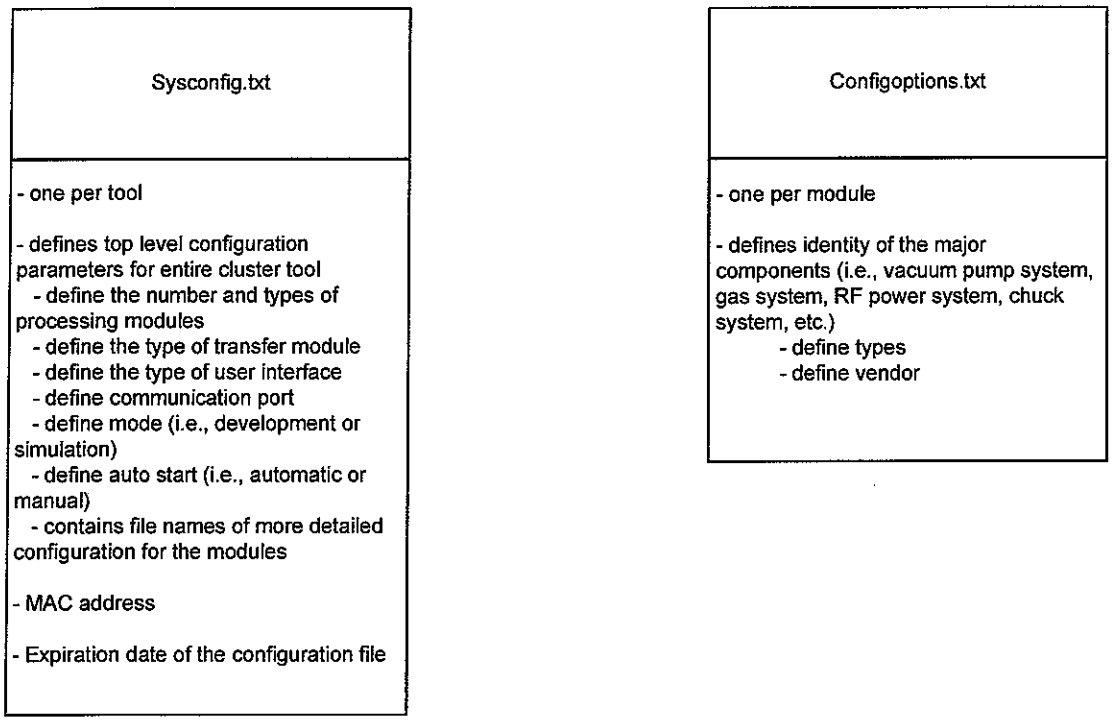

Sysconfig.txt
- one per tool
- defines top level configuration parameters for entire cluster tool
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- Expiration date of the configuration file
Configoptions.txt
- one per module
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FIG. 2

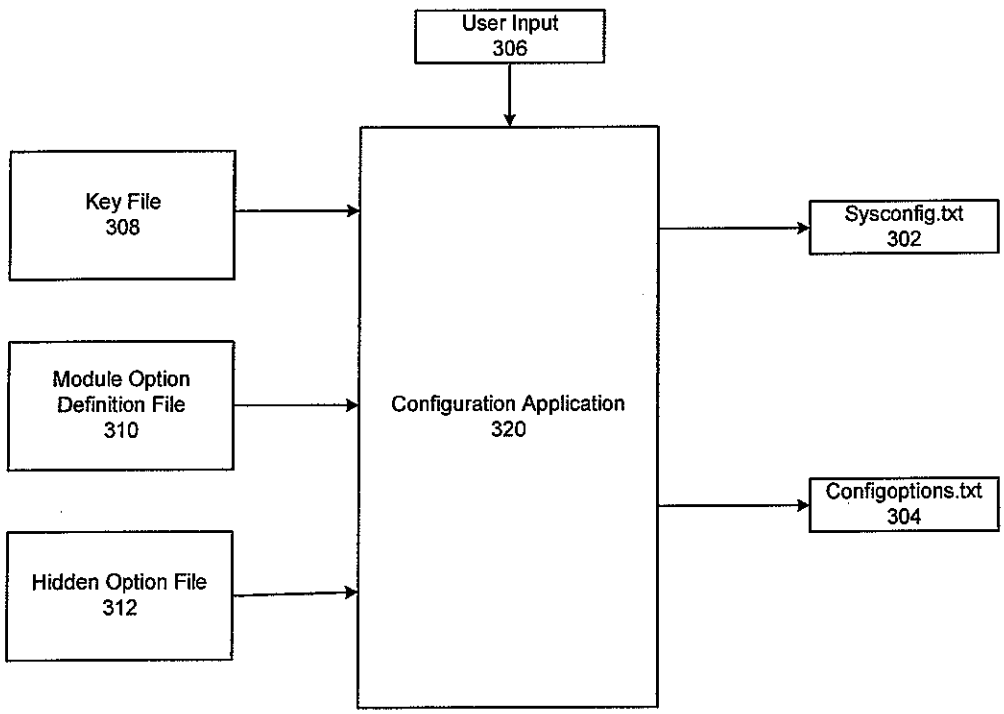

User Input
306
Key File
308
Module Option
Definition File
310
Hidden Option File
312
Configuration Application
320
Sysconfig.txt
302
Configoptions.txt
304

FIG. 3A

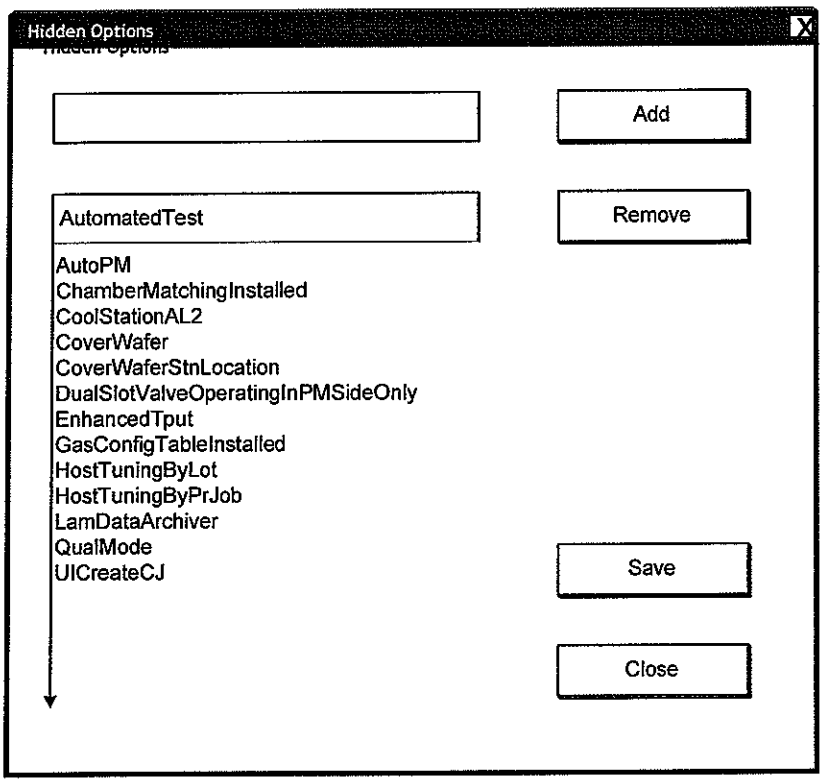

Hidden Options
Add
AutomatedTest
Remove
AutoPM
ChamberMatchingInstalled
CoolStationAL2
CoverWafer
CoverWaferStnLocation
DualSlotValveOperatingInPMSideOnly
EnhancedTput
GasConfigTableInstalled
HostTuningByLot
HostTuningByPrJob
LamDataArchiver
QualMode
UICreateCJ
Save
Close

FIG. 3B

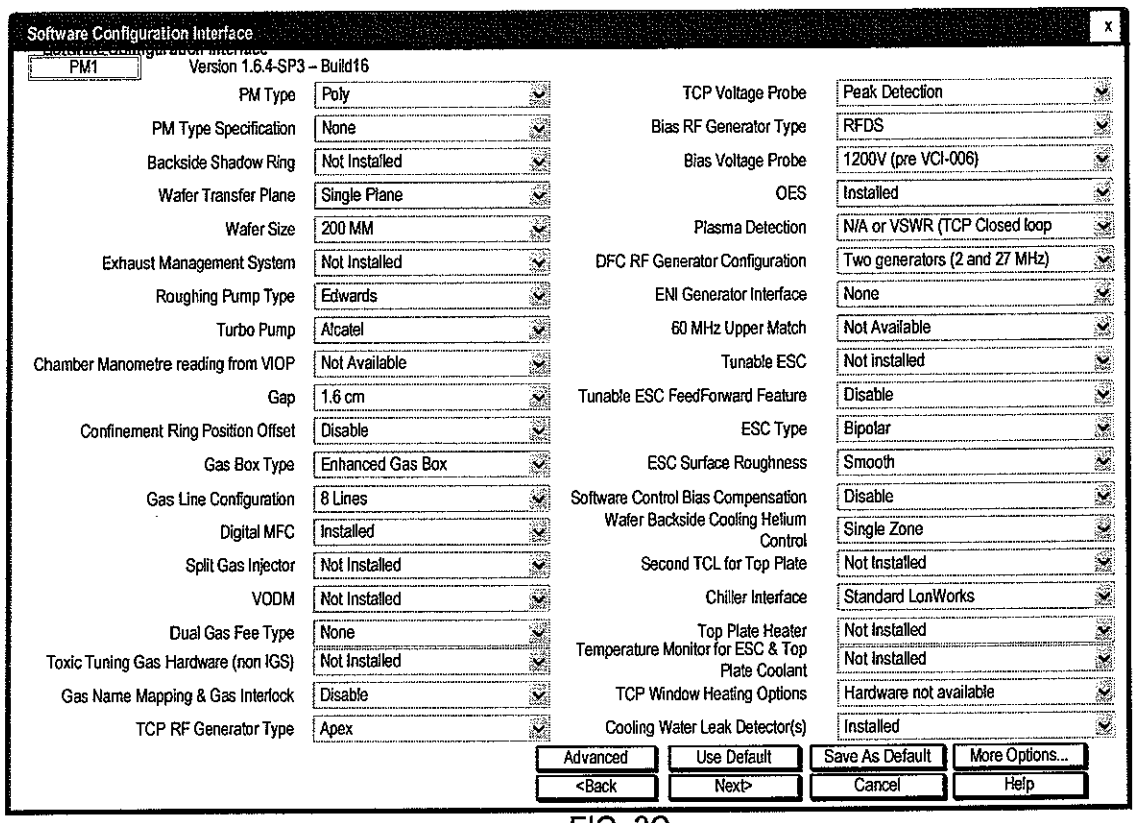

Software Configuration Interface
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Poly
PM Type Specification
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Backside Shadow Ring
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Single Plane
Wafer Size
200 MM
Exhaust Management System
Not Installed
Roughing Pump Type
Edwards
Turbo Pump
Alcatel
Chamber Manometre reading from VIOP
Not Available
Gap
1.6 cm
Confinement Ring Position Offset
Disable
Gas Box Type
Enhanced Gas Box
Gas Line Configuration
8 Lines
Digital MFC
Installed
Split Gas Injector
Not Installed
VODM
Not Installed
Dual Gas Fee Type
None
Toxic Tuning Gas Hardware (non IGS)
Not Installed
Gas Name Mapping & Gas Interlock
Disable
TCP RF Generator Type
Apex
TCP Voltage Probe
Peak Detection
Bias RF Generator Type
RFDS
Bias Voltage Probe
1200V (pre VCI-006)
OES
Installed
Plasma Detection
N/A or VSWR (TCP Closed loop
DFC RF Generator Configuration
Two generators (2 and 27 MHz)
ENI Generator Interface
None
60 MHz Upper Match
Not Available
Tunable ESC
Not Installed
Tunable ESC FeedForward Feature
Disable
ESC Type
Bipolar
ESC Surface Roughness
Smooth
Software Control Bias Compensation
Disable
Wafer Backside Cooling Helium Control
Single Zone
Second TCL for Top Plate
Not Installed
Chiller Interface
Standard LonWorks
Top Plate Heater
Not Installed
Temperature Monitor for ESC & Top Plate Coolant
Not Installed
TCP Window Heating Options
Hardware not available
Cooling Water Leak Detector(s)
Installed
Advanced
Use Default
Save As Default
More Options...
<Back
Next>
Cancel
Help

FIG. 3C

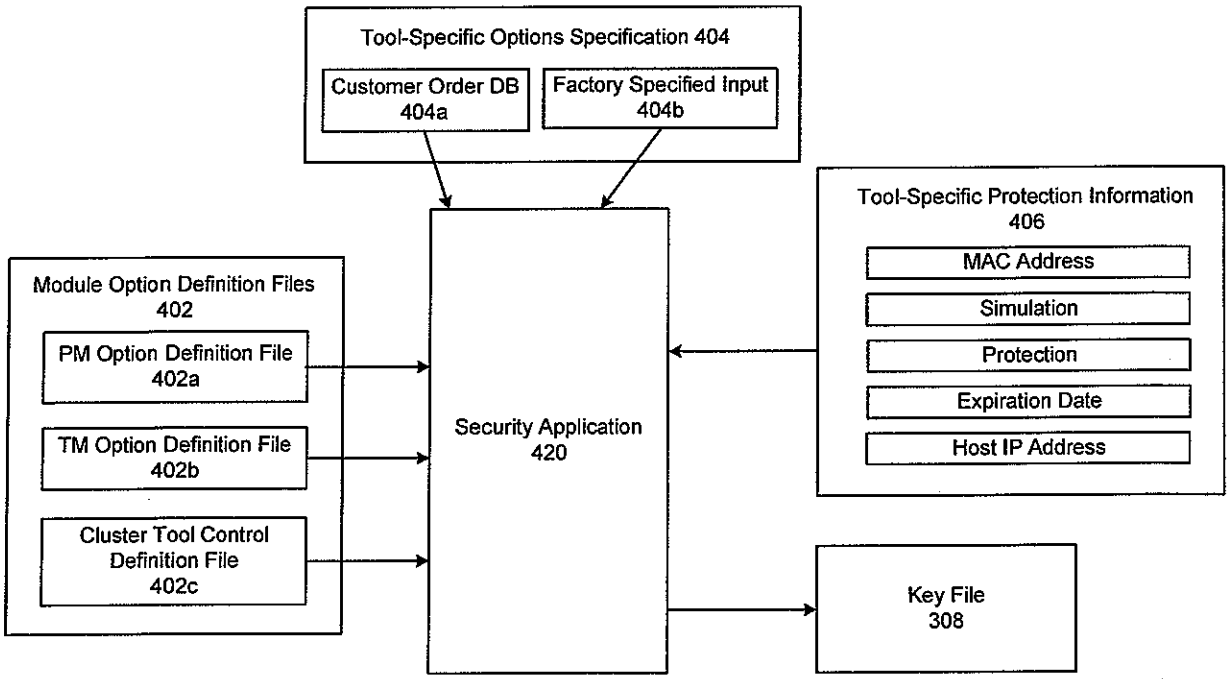

Tool-Specific Options Specification 404
Customer Order DB 404a
Factory Specified Input 404b
Tool-Specific Protection Information 406
MAC Address
Simulation
Protection
Expiration Date
Host IP Address
Module Option Definition Files 402
PM Option Definition File 402a
TM Option Definition File 402b
Cluster Tool Control Definition File 402c
Security Application 420
Key File 308

FIG. 4

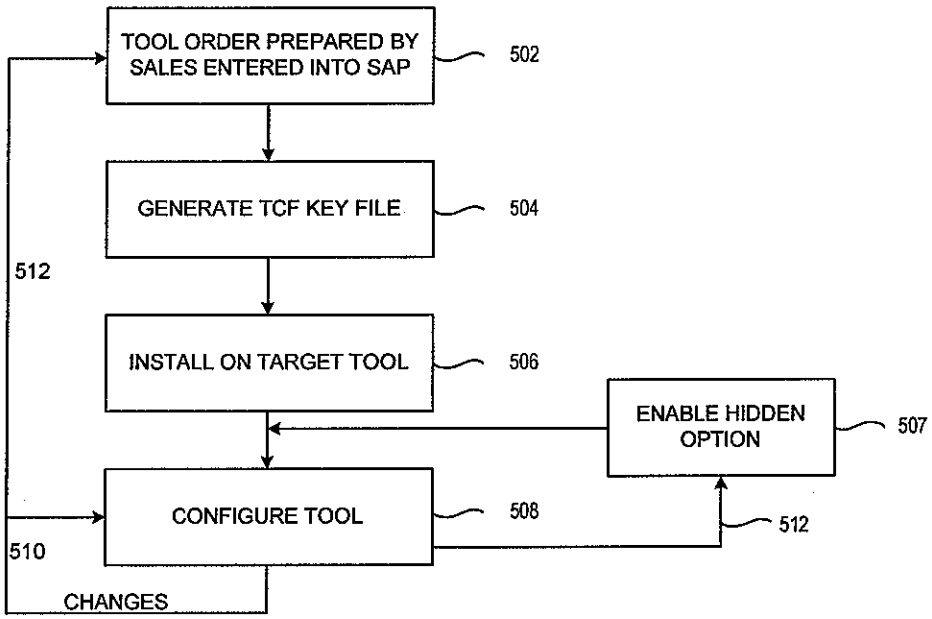

TOOL ORDER PREPARED BY SALES ENTERED INTO SAP
502
GENERATE TCF KEY FILE
504
512
INSTALL ON TARGET TOOL
506
ENABLE HIDDEN OPTION
507
CONFIGURE TOOL
508
512
510
CHANGES

FIG. 5

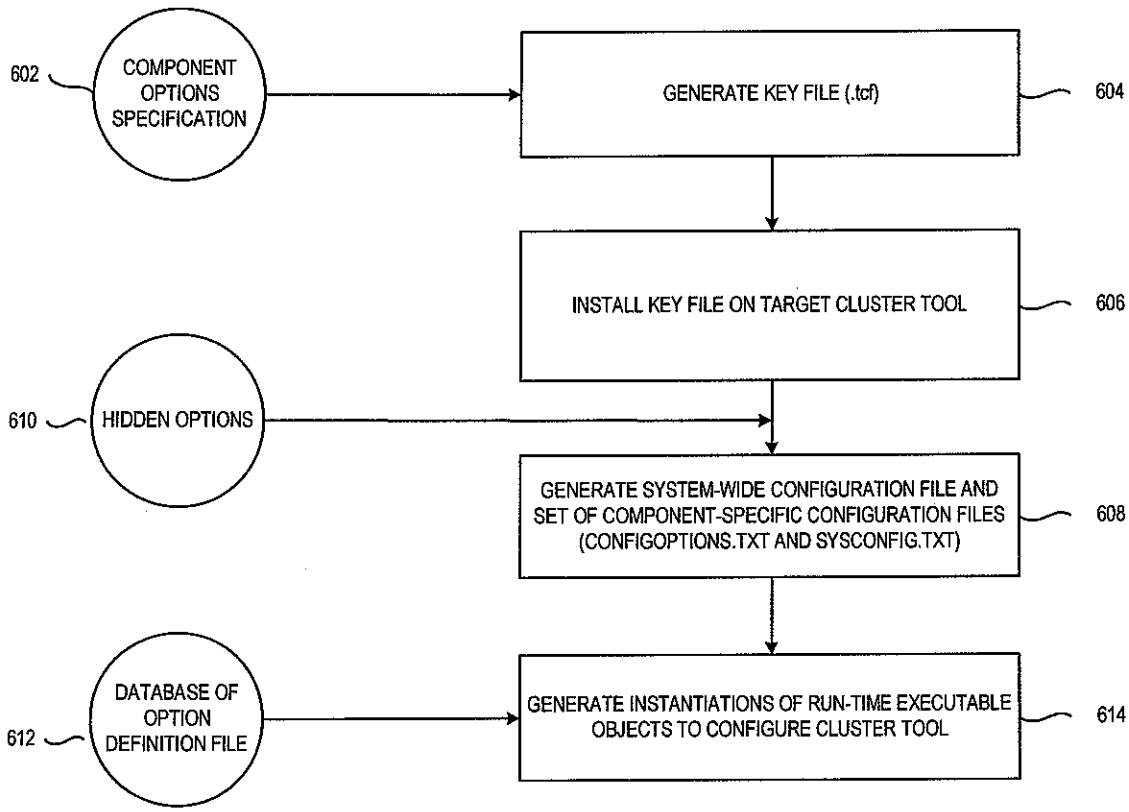

602
COMPONENT OPTIONS SPECIFICATION
GENERATE KEY FILE (.tcf)
604
INSTALL KEY FILE ON TARGET CLUSTER TOOL
606
610
HIDDEN OPTIONS
GENERATE SYSTEM-WIDE CONFIGURATION FILE AND SET OF COMPONENT-SPECIFIC CONFIGURATION FILES (CONFIGOPTIONS.TXT AND SYSCONFIG.TXT)
608
612
DATABASE OF OPTION DEFINITION FILE
GENERATE INSTANTIATIONS OF RUN-TIME EXECUTABLE OBJECTS TO CONFIGURE CLUSTER TOOL
614

FIG. 6

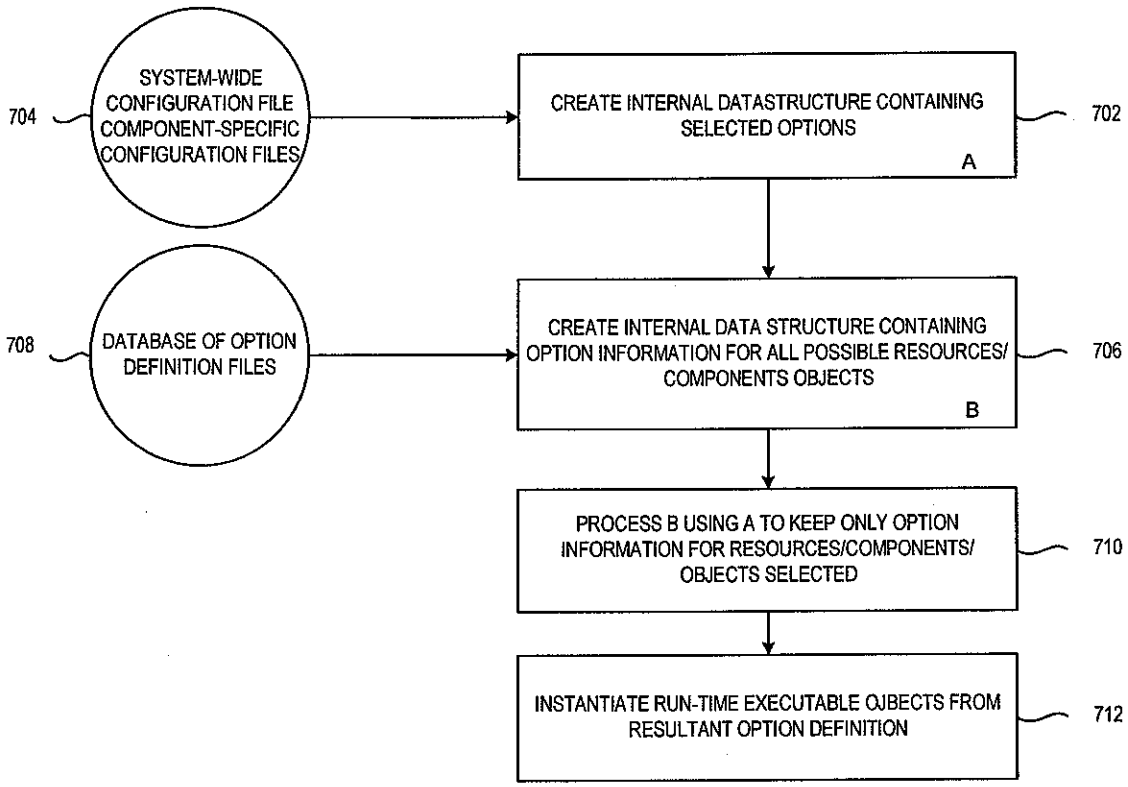

SYSTEM-WIDE CONFIGURATION FILE COMPONENT-SPECIFIC CONFIGURATION FILES
704
DATABASE OF OPTION DEFINITION FILES
708
CREATE INTERNAL DATASTRUCTURE CONTAINING SELECTED OPTIONS
A
702
CREATE INTERNAL DATA STRUCTURE CONTAINING OPTION INFORMATION FOR ALL POSSIBLE RESOURCES/ COMPONENTS OBJECTS
B
706
PROCESS B USING A TO KEEP ONLY OPTION INFORMATION FOR RESOURCES/COMPONENTS/ OBJECTS SELECTED
710
INSTANTIATE RUN-TIME EXECUTABLE OJBECTS FROM RESULTANT OPTION DEFINITION
712

FIG. 7

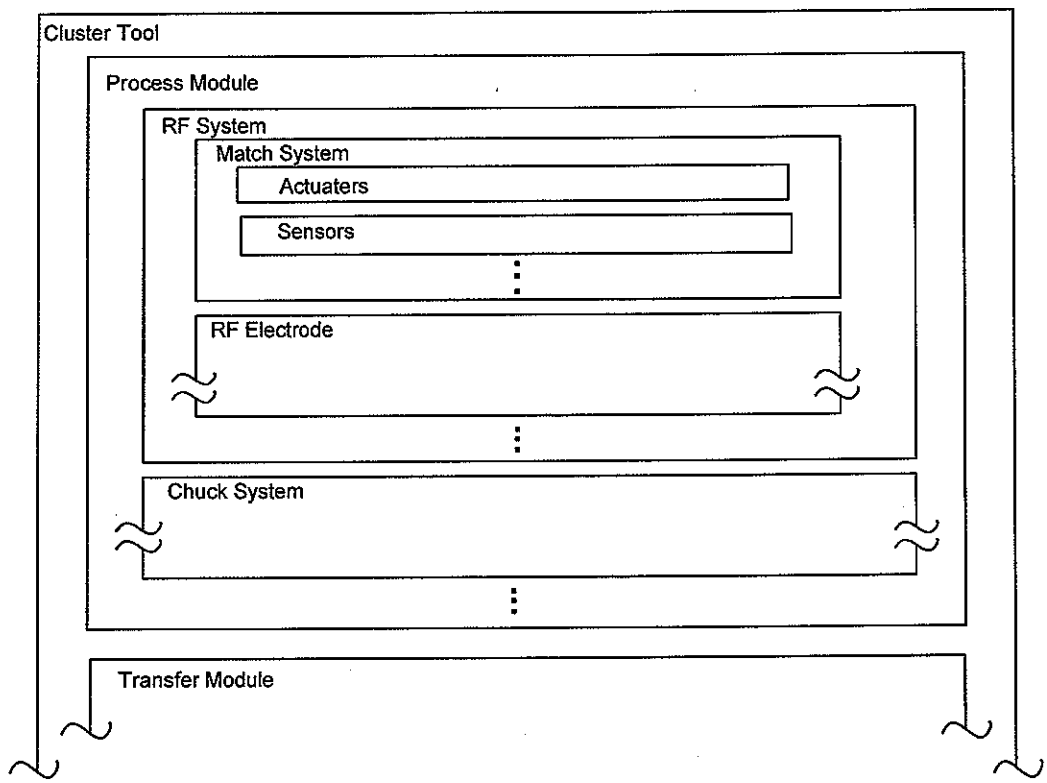

Cluster Tool
Process Module
RF System
Match System
Actuaters
Sensors
RF Electrode
Chuck System
Transfer Module

FIG. 8