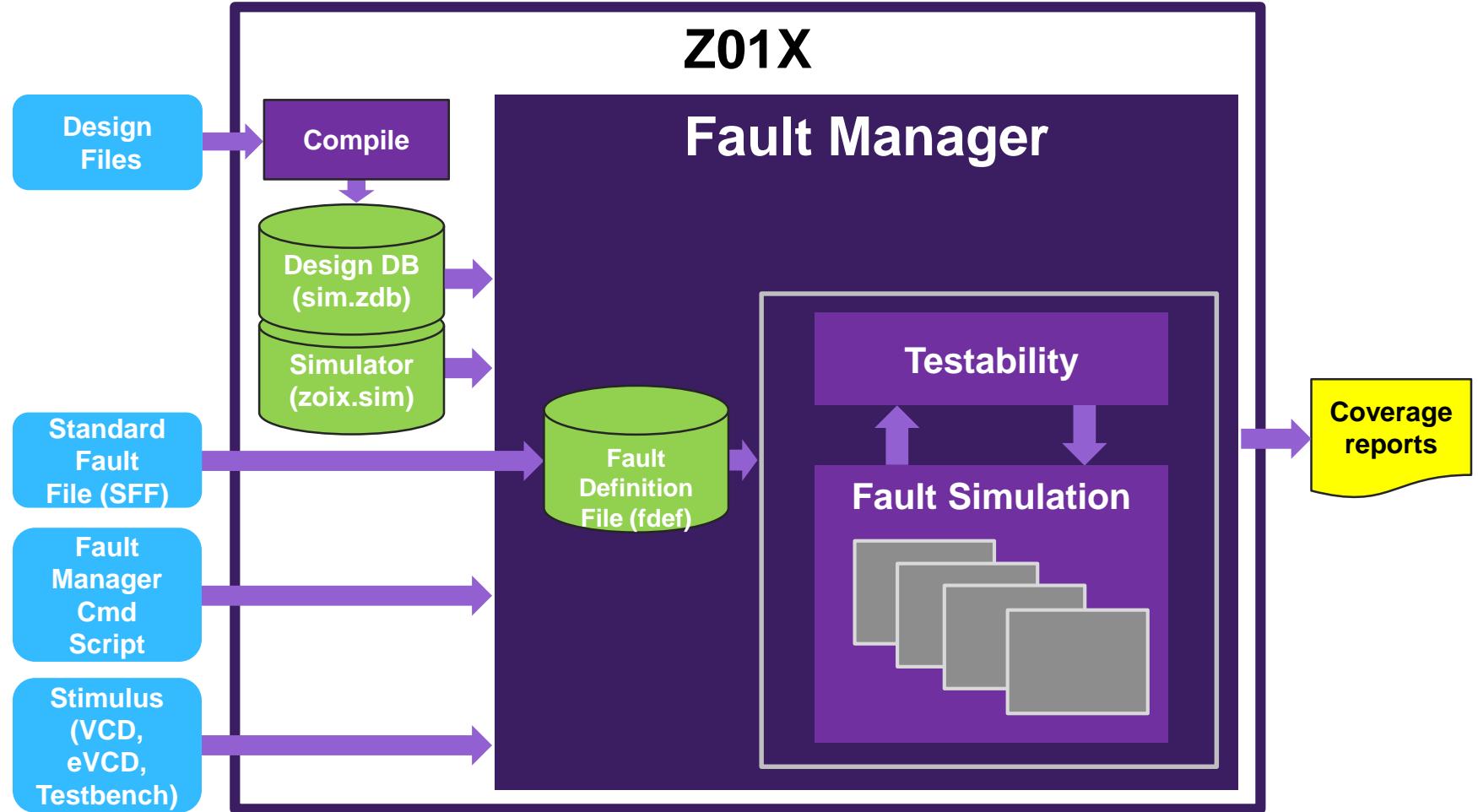
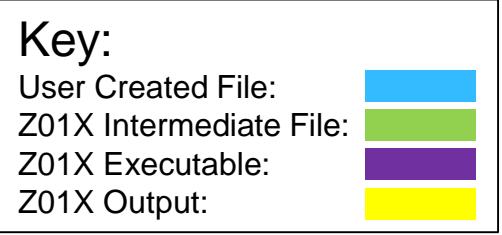


Z01X Functional Safety Demo



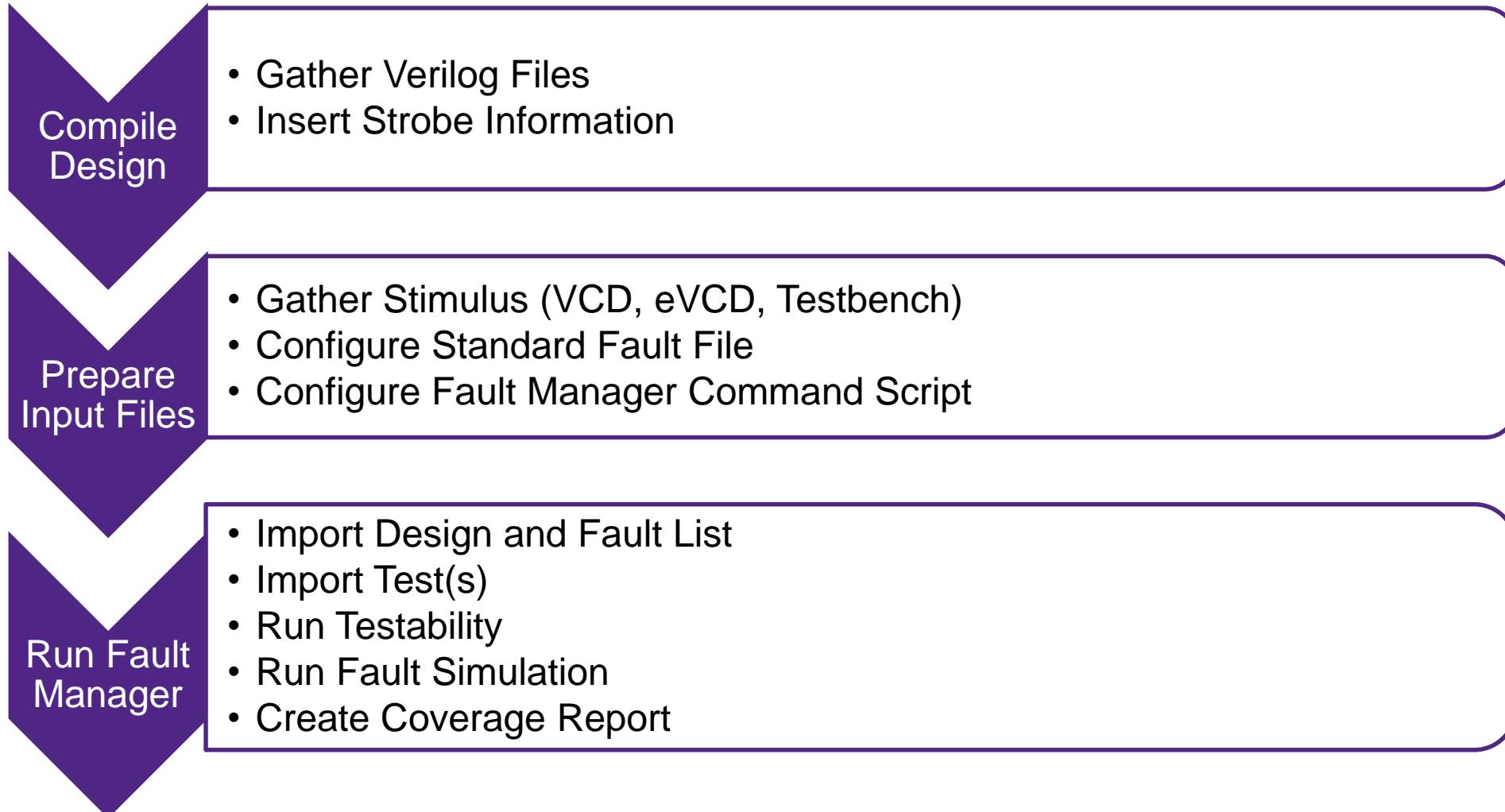
Z01X Flow



Terms and Definitions

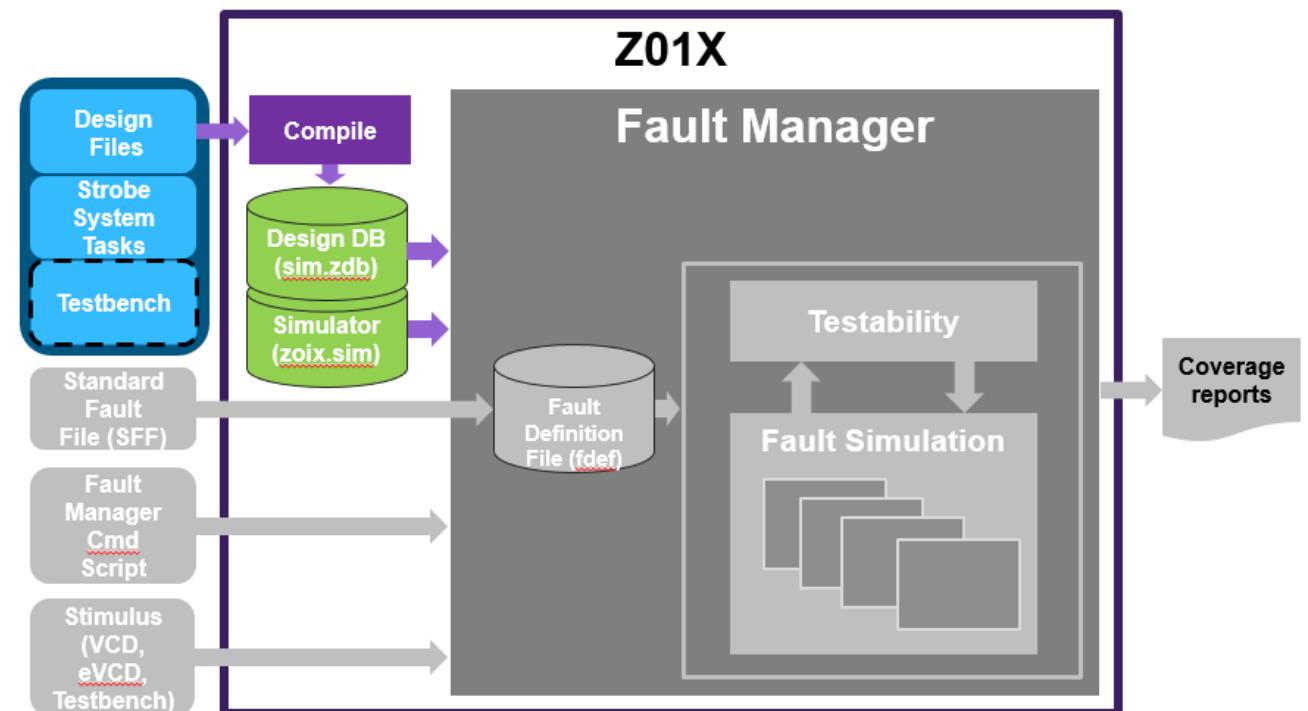
- zoix.sim – Z01X Executable
 - Simulator executable
- sim.zdb – Z01X Database.
 - Z01X created representation of the design
- SFF – Standard Fault File.
 - User configured fault universe description
- sim.fdef – Fault definition file.
 - Binary representation of user configured fault list from SFF
- fmsh – Fault Manager Shell.
 - User interface to Fault Manager

Z01X Procedural Flow



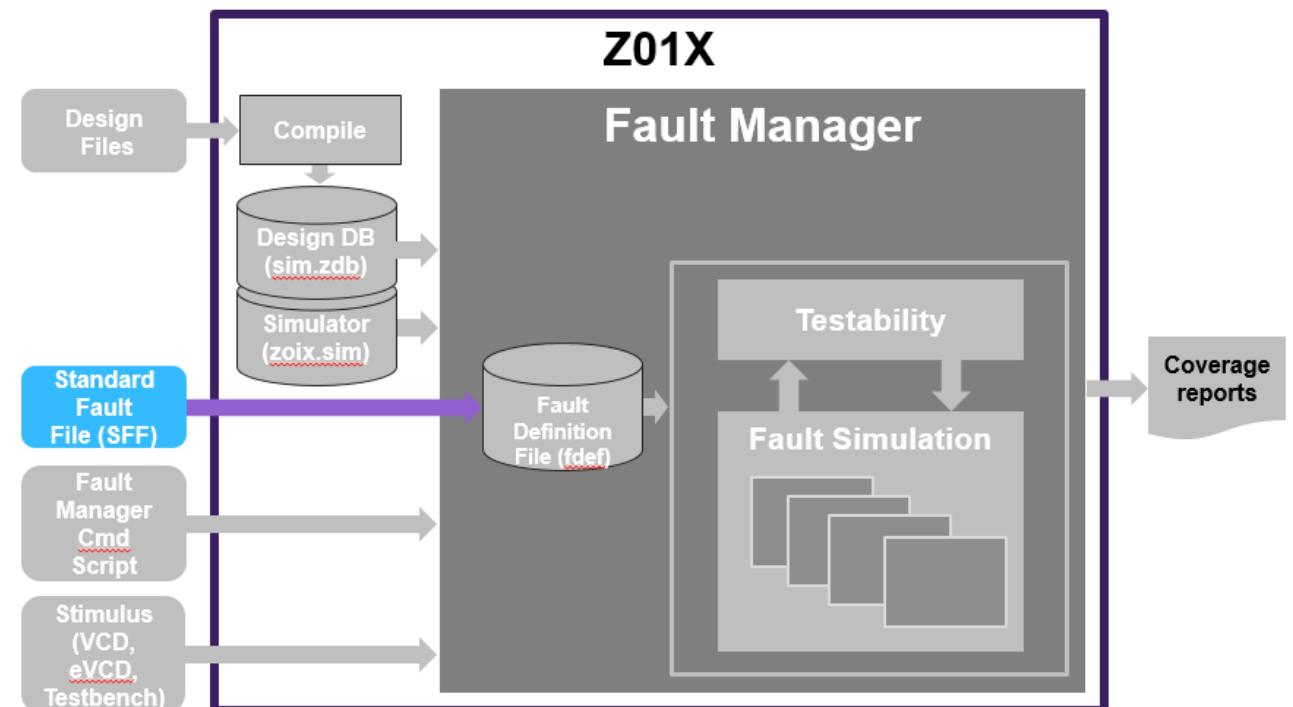
Compile

- Input:
 - (User Created) Gate Level Netlist or RTL design description
 - (User Created) Strobe system tasks
 - (User Created) Testbench (Optional)
- Z01X Executable:
\$ZOIXHOME/bin/zoix
- Output:
 - (Z01X Created) Simulator executable
 - (Z01X Created) Design database
 - (Z01X Created) Logfile



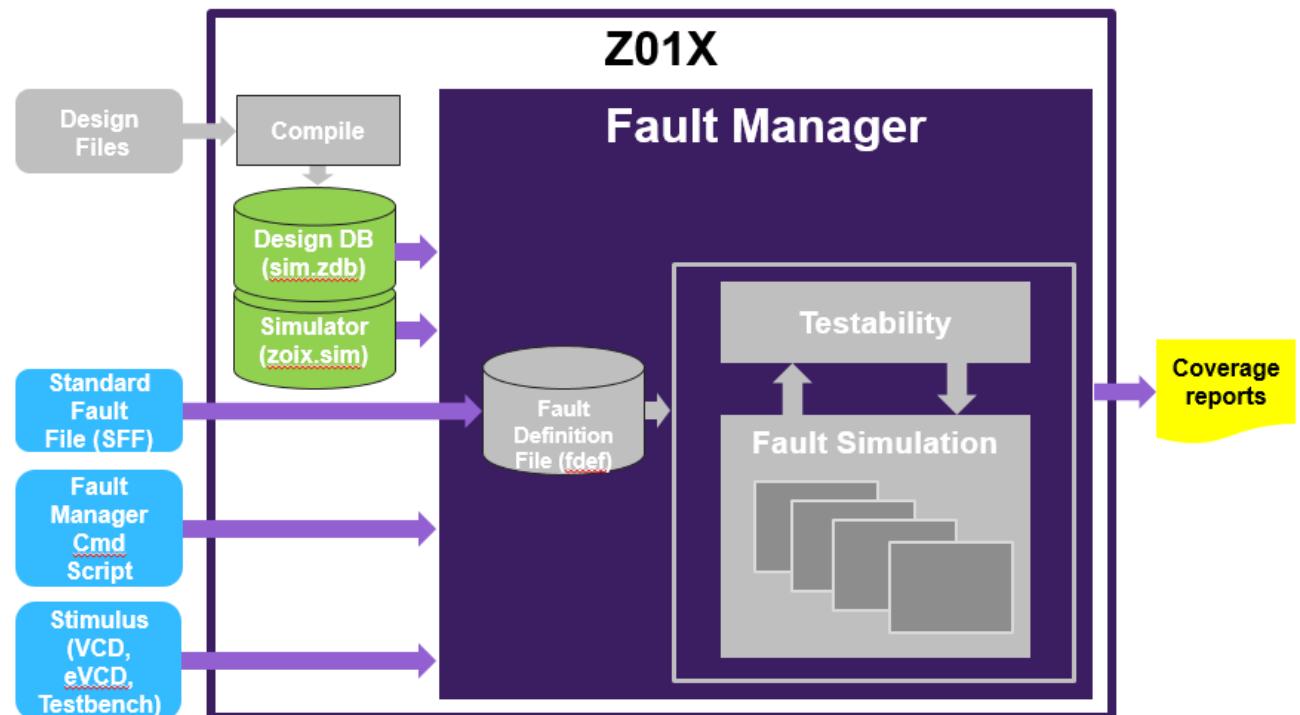
Standard Fault File

- Input:
 - (User Created) Standard Fault File
- Z01X Executable:
 - None – Input to Fault Manager
- Output:
 - None



Fault Manager

- Input:
 - (Z01X Created) Design Database
 - (Z01X Created) Simulator Executable
 - (User Created) Fmsh Script
 - (User Created) Stimulus
 - (User Created) Standard Fault File
- Z01X Executable:
\$ZOIXHOME/bin/fmsh
- Output:
 - (Z01X Created) Coverage Reports



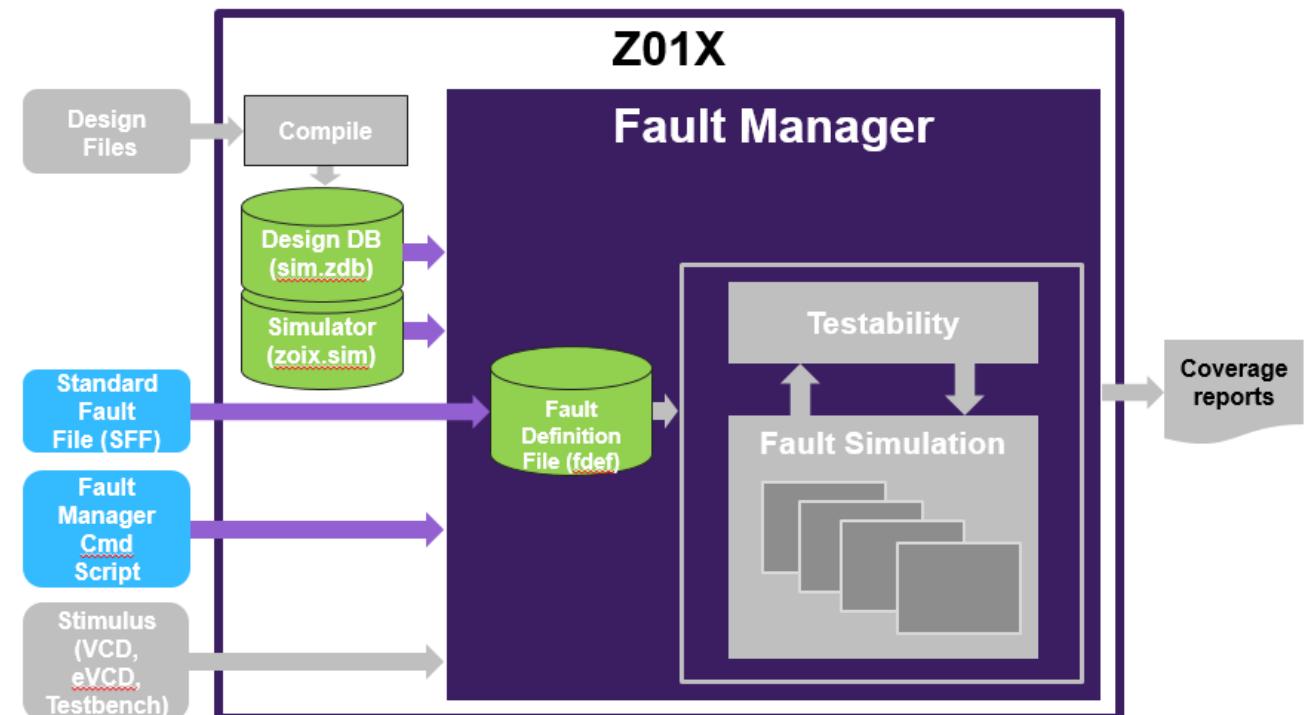
Import Design and Fault List

- Input:
 - (User Created) Standard Fault File
 - (User Created) Fmsh Script
 - (Z01X Created) Design Database
 - (Z01X Created) Simulator Executable

- Fault Manager Commands:

```
set (var=[defines], format=[standard])
set (var=[fdef], method=[fr],
     fr.fr=[user_file.sff])
design()
```

- Output:
 - (Z01X Created) Fault Definition File
 - (Z01X Created) Logfiles



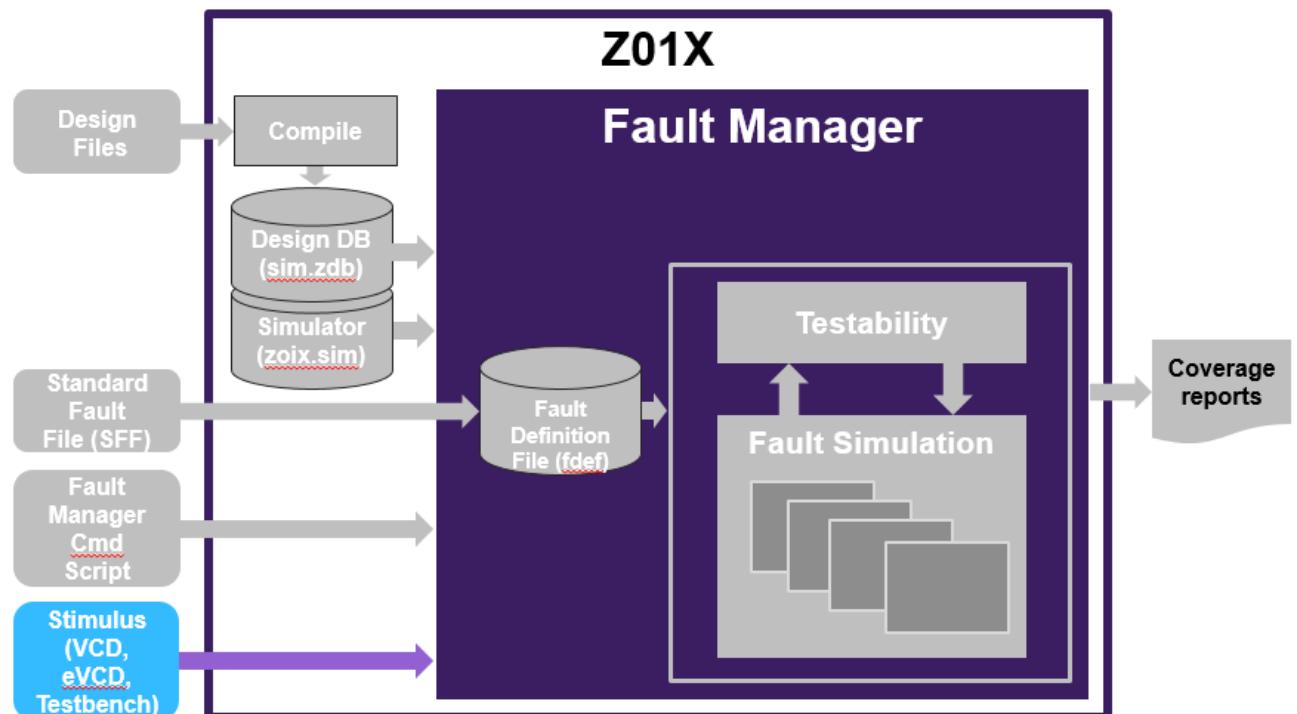
Import Tests

- Input:
 - (User Created) Stimulus Files

- Fault Manager Commands:

```
addtest(test=[<user_test1>],  
        stimtype=[tb])  
  
or  
  
addtest(test=[<user_test1>],  
        stimtype=[vcd], stim=[user.vcd])
```

- Output:
 - (Z01X Created) Logfile



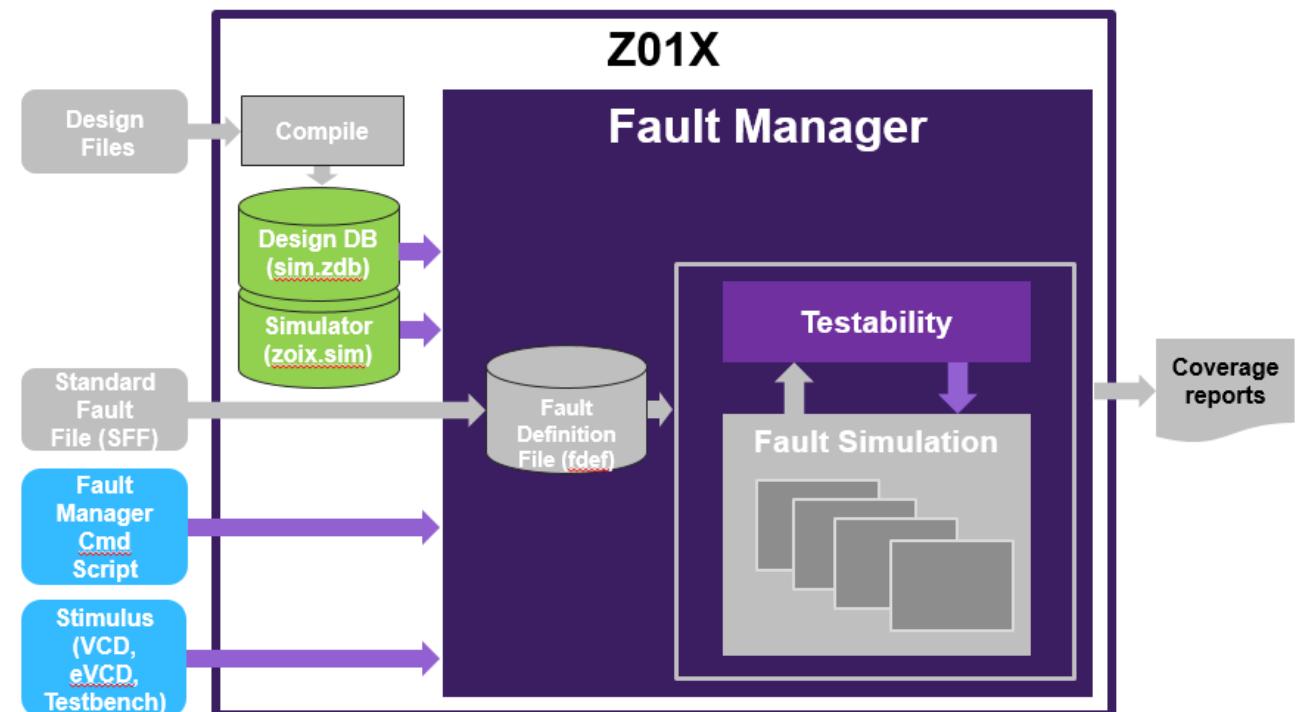
Run Testability

- Input:
 - (Z01X Created) Design Database
 - (Z01X Created) Simulator Executable
 - (User Created) Stimulus Files
 - (User Created) Fmsh Script

- Fault Manager Commands:

`fsim()` – Auto-runs testability

- Output:
 - (Z01X Created) Testability Report
 - (Z01X Created) Logfile(s)



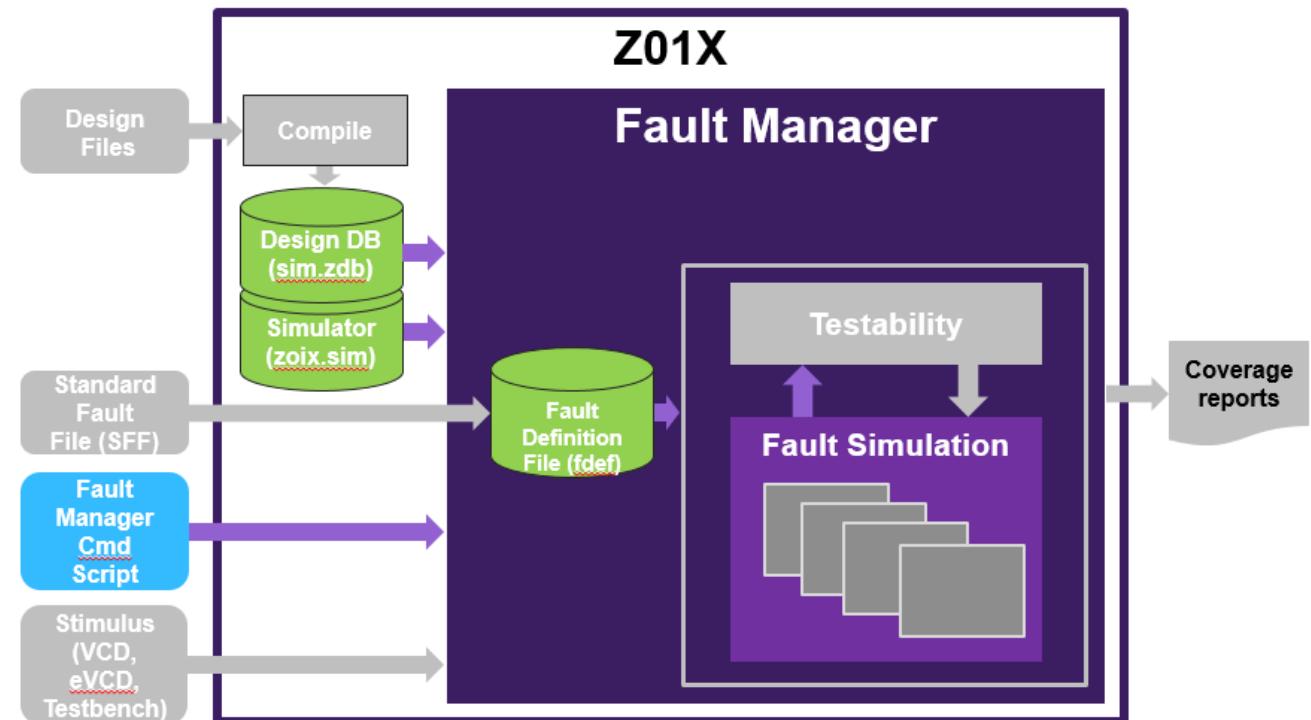
Run Fault Simulation

- Input:
 - (Z01X Created) Design Database
 - (Z01X Created) Simulator Executable
 - (Z01X Created) Fault Definition File
 - (User Created) Stimulus Files

- Fault Manager Command:

```
fsim()
```

- Output:
 - (Z01X Created) Fault Definition File
 - (Z01X Created) Logfile(s)



Create Coverage Reports

- Input:
 - (Z01X Created) Design Database
 - (Z01X Created) Fault Definition File

- Fault Manager Command:

```
coverage(file=[user_coverage.txt])
```

- Output:
 - (Z01X Created) Text Coverage File
 - (Z01X Created) Logfile

