Hi team,

Please find below the high level design and features of ftLinux IPL installation as implemented by me. :

**Design document for ftLinux AUL automation. (illustrated).**

* Basic.cfg – A plain text configuration file that contains various data in the form of  key,value pairs grouped under various section headings. This is the  file that holds data read by various programs and provides a  single window for customization.
* ftLinuxQAOperations.py – class for all QA Operation methods. This class encapsulates data structures, methods and logic that implement the automation. This program reads data from basic.cfg file and loads them into its data structures.  Plan is there to make it  a baseline QA Ops class and derive ftLinuxQAOps class out of it. Also we can derive ftESXQAOps class too from the baseline class when we start working on ftESXQAOps.
* ftLinuxQAOps.py – The gateway program to execute ftLinux IPL automation. This program is a procedural program that has  data structures, methods and logic required for running all procedures and QA operations on the target server. This program  instantiates  ftLinuxQAOperations.py and creates an object fo the same , that is used to call various methods it supports and bring about automation. This program also performs user input validation and
* CommonLibrary.py – The library file that holds common methods and algorithms required for all the classes and stray programs.
* SSHOps.py – A class encapsulating all the SSH operations on the remote server. This class in instantiated by  ftLinuxQAOperations.py program and an object is created that represents an SSH client connection with the remote server. All remote command executions are performed by means of convenient methods that are defined in this class. A one stop shop for all remote operations that heavily utilizes Paramiko SSH implementation module.
* Logger.py – A class for logging results. Implemented by importing  logger module. Not yet integrated with ftLinux automation.

**Salient Procedures :**

* Pre-condition :  ftLinux server should be pre-installed with required version of Linux operating system.
* ftLinuxQAOps.py is the gateway program. Takes server name, operation name and config file name as inputs.
* Opens up basic.cfg (configuration file) and searches for section heading equal to the server name provided. On finding it loads the key,value pairs of data and loads them into a dictionary.
* First thing it does is to create  an object of QA Operations from the class defined in ftLinuxQAOperations.py.
* Next it performs user input validation. Never goes further if user inputs are wrong.
* On verifying the user inputs  it starts  calling  set methods to populate various data structures within QA Operations object.
* Next it creates an object from SSHOps.py and  starts calling QA Operations to be performed on the remote server in an order to carry out IPL installation on ftLinux server. The QA Operations that it calls up are lined up below in that order:
* Set\_Linux\_Release(Obj.CONFIG['LINUX\_RELEASE']) , Unregister\_OS, Register\_OS, Update\_OS , Generate\_NetCfg\_Script, Schedule\_NetCfg , Perform\_AUL(), Verify\_Installation, Install\_QATools

**Automation Flow Chart:**

