Benazir Income Support Program (BISP)
National Social Protection Program (CR.5973-PK)
TERMS OF REFERENCE
SYSTEM ENGINEER

A. BACKGROUND:

Initiated in July 2008 by the Government of Pakistan (GoP), BISP is the first ever comprehensive and countrywide Social Safety Net (SSN) programme. BISP's primary aim is to eradicate poverty through provision of unconditional and conditional SSNs. Unconditional SSNs through cash injection enhance buying capacity of the disadvantaged families. Through conditional SSNs schooling of the children aged 05-12 is supported. Between 2008 and 2012, BISP carried out a National Socio-Economic Survey (NSES) to take stock of the socio economic status of entire population of the country by applying a comprehensive Proxy Means Test (PMT) to NSES in order to identify eligible beneficiary families with PMT scores less than 16.17.

It is widely acknowledged that household demographics change to a considerable extent over a duration of five years, and, often, economic registries have errors at three levels i.e. (i) design, (ii) Implementation, and (iii) time/aging factor which in turn affect the measure of accuracy. In consideration of these, this year, BISP has initiated a fresh National Socio Economic Survey to update its National Socio-economic Registry (NSER).

The World Bank is actively engaged with the GoP and BISP since 2009. The World Bank's initial support to BISP came through sectoral Development Policy Credit (US$150) in 2009, accompanied by Social Safety Net Technical Assistance (TA) Project (US$60 million). In 2012, the TA Project was restructured with additional financing of US$ 150 million to support expansion of the program and strengthening administration and performance by introducing disbursement linked indicators (DLIs) and was closed on June 30, 2017.

World Bank is extending its support through National Social Protection Program (NSPP), a US$ 100 million credit from IDA. It will support the GoP through, a Program for Results (PforR) in an amount of US$ 90 million by making disbursement against the key results as part of the Government's program; and an Investment Project Financing (IPF) TA component in an amount of US$ 10 million to finance critical areas to achieve the quality of results. The expected closing date of NSPP is June 30, 2021.

For timely and effective development/maintenance and roll out of the programs, BISP is in the process of putting in place the required technical staff for the IS cell. To this end, BISP requires the services of a **System Engineer** at the department of MIS.

B. OBJECTIVES

The **System Engineer** will be responsible for building out, maintaining and troubleshooting the rapidly expanding infrastructure; in particular, to support BISP's Financial Management and Control Systems. The SE will ensure the highest level of availability of mission critical infrastructure.

C. **SCOPE AND RESPONSIBILITIES**

The main duties of **System Engineer** include:
- In coordination with SPM/IS Architect/Principal Technology Advisor, deploy and maintain all systems and infrastructure; particularly pertaining to financial management and control systems.
- Install, configure, test and maintain operating systems, application software and system management tools.
- Proactively ensure the highest levels of systems and infrastructure availability.
- Monitor and test application performance for potential bottlenecks, identify possible solutions, and work with developers to implement those fixes.
- Maintain security, backup and redundancy strategies.
- Write and maintain custom scripts to increase system efficiency and lower the human intervention time on any tasks.
- Participate in the design of information and operational support systems.
- Liaise with vendors and other IT personnel for problem resolution.
- Document all technical details and architecture to CMMI-III level or equivalent.
- Contribute technical and professional knowledge and experience to improve BISP IS operations and technical platform.
- Develop and provide a weekly project status report describing the status of the above activities and any issues that may emerge, with conclusions and recommendations in regards to the BISP IS software development operation.
- Any other technical task required in a team environment for solution delivery.

D. **Time frame and Supervision**

The initial contract will be for one year subject to further extension based on satisfactory performance. The professional will work with BISP Information Systems cell to perform the assigned tasks and report to the IS Systems Architect/*Principal Technology Advisor*.

E. Qualifications and Experience
- As a minimum, 16 years of education and a Bachelor's degree in Computer Sciences CS, (4 years), Engineering or a related field.
- At least 4+ years working experience as Systems Engineer on enterprise level projects in organizations preferably CMMI certified.
- Proven working experience in installing, configuring and troubleshooting UNIX /Linux based environments.
- Solid experience in the administration and performance tuning of application stacks (e.g.,Tomcat, JBoss, Apache, Ruby, NGINX)
- Solid Cloud experience, preferably in AWS
- Experience with virtualization and containerization (e.g., VMware, Virtual Box)
- Experience with monitoring systems
- Experience with automation software (e.g., Puppet, cfengine, Chef)
- Solid scripting skills (e.g., shell scripts, Perl, Ruby, Python)
- Solid networking knowledge (OSI network layers, TCP/IP)
- Preference will be given to graduate from HEC approved top ranking local and foreign recognized universities.
- Work experience from certified software development & product companies is preferred.