

Mata Elang Internet Monitoring Project Consulting Proposal

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Proposal for: JICA Project for Human Resources Development for
Cyber Security Professionals (2019-2024, with University of Indonesia)
Proposal by: PT. Piramida Teknologi Informasi

PT. Piramida Teknologi Informasi

PT. Piramida Teknologi Informasi is a company engaged in Technology and Information Systems. We provide information system consulting services, application development solutions (Application systems / software) and system implementation for the Business and Government sectors.

PT. The Information Technology Pyramid has several ready-made applications and special development tailored to the needs of the organization.

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Goals and Objectives

Importance of cyber security cannot be denied in the current cyber environment. With continuous growth of internet, cyber security has become a necessity for both big and reputed organizations as well as protecting critical information infrastructure. Intrusion detection systems (IDS) are considered to be an efficient way for detecting and preventing cyber security threats. There are a lot of commercial IDS in the market with high “black box” technology. However, some of government bodies in ASEAN region are aware with the limited customization in the commercial IDS in their core networks and/or cannot afford to purchase commercial IDS.

Fortunately, there are some organizations using an open source IDS named “Mata Elang¹” in Indonesia. The Mata Elang has a potential to be a powerful solution to fulfill the needs of government bodies for monitoring their core networks with free and nonblack-box system.

¹ <https://github.com/mata-elang-pens>

As the Mata Elang is a quietly new IDS application, it lacks its development phase plan, development strategy and technical requirements for each phase, structured documentation and its technical specification.

After seeking information by contacting Mata Elang's developer team and the potential strategic value of the products, we, PT Piramida Teknologi Informasi are interesting to become as technology consultant for Mata Elang under the JICA Projects ² scheme.

JICA Project Needs for Mata Elang

PT. Piramida Teknologi Informasi's information technology consulting services will deliver the following results for JICA Projects for Mata Elang:

- **Strategy and plan for Mata Elang** – Mata Elang is a newcomer in the Network based IDS applications framework. As a new application, it still lacks development strategy methods. We will offer Scrum agile frameworks as development strategy because of continuously and rapid growth of cyber security technology. The SCRUM process in applications development has the main goal that the application must meet stakeholder expectations and not merely developer's assumptions.

As an open source applications, one of the key metrics for sustainability are growth in total user base and growth in participation by the most-motivated users. Instead of looking for sustainability models per se, look for usage models. If there are enough users getting enough of what they need, they will find the sustainability models needed to keep the software maintained. Software that has users and is open source never goes away, and technical success will open up new possibilities for sustainability. We will assist Mata Elang developer team to build a public-repository and web sites to provide a all information about Mata Elang to stakeholders.

Mata Elang started by voluntary developer team. Because of that, we found that the development process of Mata Elang was slow. We will give assistance to Mata Elang developer team for finding the best stage, timing and estimated budget to boost the development of Mata Elang.

² JICA Project for Human Resources Development for Cyber Security Professionals (2019-2024, with University of Indonesia)

- **Technology used in Mata Elang Projects** – As technology becomes increasingly complex, so do security threats. We'll assess Mata Elang platform and comparing with other existing open source IDS platform. We will assist Mata Elang developer team to find current challenges of IDS platform, the suitable technology to face the challenges for Mata Elang, including : system architecture, coding standard
- **Short term development Plan (1 Year Plan)** – The first year of an open source application is the most critical years. It must have clear objective, system architecture, coding standard and its core technology. Like a common Network based IDS application framework, Mata Elang should have at least three main parts : Sensor, Processing and Storing and Dashboard system. We will guide Mata Elang to design the short term development to cover the main modules needed in IDS. We will also provide RFP for each module for getting quotations from IT companies.

Project Team

1. Lead Consultant
 - a. Cahyo Darujati
2. Supporting Consultant
 - a. Ayik ..
3. Mata Elang Technical Member (will be interviewed)
 - a. Ferry Astika Saputra
 - b. Jauari Akhmad
 - c. Dimas Harsoyo Putro
 - d. Kalamullah Ramli
 - e. Bisyron Wahyudi
 - f. Muhammad Salman

Project Expenses

Strategy document, technology-used document and short term development and RFPs
IDR 129,980,400.

| NO | Description | Unit | Vol | Price |
|----|-------------|------|-----|-------|
|----|-------------|------|-----|-------|

| | | | | Unit | Total | | |
|------------------------|---------------------------------------|------------------|----|-----------|--------------------|--|--|
| | Non-Personal Expenses | | | | | | |
| 1 | Transport Surabaya-Jakarta (two ways) | man per activity | 8 | 1.200.000 | 9.600.000 | | |
| 2 | Transport Jakarta-Surabaya (two ways) | man per activity | 6 | 1.200.000 | 7.200.000 | | |
| 3 | Local transport | man per day | 14 | 500.000 | 7.000.000 | | |
| 4 | Accommodation | man per day | 14 | 570.000 | 7.980.000 | | |
| 5 | Stationeries | package | 1 | 1.000.000 | 1.000.000 | | |
| 6 | Printing reports | exemplar | 12 | 278.000 | 3.336.000 | | |
| 7 | Working space at PENS | package | 2 | 4.000.000 | 8.000.000 | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | Personal expenses | | | | | | |
| 8 | Lead Consultant | man per month | 2 | 9.500.000 | 19.000.000 | | |
| 9 | Supporting Consultant | man per month | 2 | 7.700.000 | 15.400.000 | | |
| 10 | Team member | man per month | 12 | 3.304.000 | 39.648.000 | | |
| | | | | | | | |
| | | | | | | | |
| Sub Total | | | | | 118.164.000 | | |
| Tax (PPN) = 10% | | | | | | | |
| Total | | | | | | | |
| | | | | | | | |

Project Timeline

Interviewing Mata Elang technical group – We'll start by interviewing and/or discussing the Mata-elang technical group members to define the business strategy and plan infrastructure to figure out what's working well and what can be improved.

Collecting related technical document to Mata Elang – We collect the existing technical documents and study the current development environment for Mata Elang. We also discuss with the Mata Elang technical group members to define the technical details that all the Mata Elang developers including new comers should know

Designing short term development plant – After designing long term plan in strategic document, we have to help Mata Elang technical group members to define the short-term development plan (e.g. 1 year plan). Based on the short term development plan, we will discuss with the Mata Elang technical group members how to modularize Mata Elang development for using outsourcing service or on-site development service.

| No. | Phase | 1st Month | | | | 2nd Month | | | | Deliverable Items |
|-----|---|-----------|---|---|---|-----------|---|---|---|--|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 1 | Interviewing Mata Elang technical member group | | | | | | | | | Strategy Documents : 1. Goals of Mata-elang project 2. Reasons for doing Mata-elang project 3. Strategy of establishing eco-system for sustainable Mata-elang project 4. Milestone schedule including Long Term Support (LTS) version lifecycle (at least next 5 years) 5. Plan for required developers and funding 6. Project governance structure 7. License (e.g. BSD, MIT) 8. Risks and Concerns |
| | a. preparation | | | | | | | | | |
| | b. interviewing technical member | | | | | | | | | |
| | c. writing report | | | | | | | | | |
| 2 | Collecting related technical document to Mata Elang | | | | | | | | | Developer's Guide: 1. System architecture 2. Coding standard 3. Version control of source codes 4. development and test environment |
| | a. interviewing main developer team | | | | | | | | | |
| | b. discussing system architecture | | | | | | | | | |
| | c. deciding coding, versioning standard and manuals | | | | | | | | | |
| | d. deciding development and testing metrics | | | | | | | | | |
| | e. writing reports | | | | | | | | | |
| 3 | Designing short term development plan | | | | | | | | | Short term development plan and RFPs for development (each module if applicable): Scope of work 1. Expected deliverables and acceptance criteria 2. Estimated workload and price for each outsourcing task |
| | a. preparation | | | | | | | | | |
| | b. Writing reports | | | | | | | | | |
| | b. writing RFPs | | | | | | | | | |

Supporting Document: Company Profile of PT. PTI (in Bahasa)