

Everyone's Smart University

Project (Spring 2021)

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PROJECT LEADERSHIP

- **Overall services.**

Below network diagram shows the main components of the design, in a high level drawing. The DIA link (internet), will be terminated at an ISR router that will be connected to a firewall to secure the users traffic, (wired and wireless users). The voice routers is doing the voice gateway function for non-internal calls, which. The IPVPN link, is mainly placed to connect to coloration service cloud (HCS), routing is handled by and MRS for WAN, that is secured using the branch firewall, which can work independently from edge firewall. The Cloud collaboration services (HCS), is provided in two datacenters as a standard product offering, with matching link speed at the incubator. All external links will be connected (behind firewalls) to the Managed Lan Solution (core switch, which will connect to access layer switches with 10G links), Managed Wifi will be connected at the access layer switches of the Managed Lan. The Security of the network, will be achieved by the Managed Firewall solution. All the services will reach to users at the access switches (or wireless), below is a summary list of the services:

- Users internet (at wired or wireless links)
- IP Phones or collaboration endpoints.
- CCTV and physical security
- IoT

In the coming sections, more detailed description of the services will be covered.

- **Scope of Work**

- Deliverables

- 1- 250 X Business Collaboration Plus Subscription: 3Years (PUPM)
- 2- 14 X Business Collaboration Plus Subscription: Telepresence (PUPM)
- 3- 40 X Cisco IP Phone 8845
- 4- 26 X Shabik service Advance Package - Cisco Meraki Access Point MR-33
- 5- Raqib Service with 58 X HikVision Camera indoor 4 MP (Dome)
- 6- Voice circuit 3Mbps with 100 extensions.
- 7- 1x 5 Mbps IPVPN Circuit with Installation and configuration (at site)
- 8- 2 x 5 Mbps IPVPN Circuit with Installation and configuration (at cloud)
- 9- MRS Router for IPVPN (CISCO ISR4321/K9) Supports Bandwidth up to 50 Mbps with installation service • Palo Alto firewalls PA-820 and optional redundant of the same model.
- 10-200 Mbps DIAS Circuit Installation/Activation Charges
- 11- MRS Router for IPVPN(CISCO ISR4431/K9) Supports Bandwidth up to 500 Mbps with installation service
- 12- Managed Voice Gateway Router Cisco ISR 4321 Bundle with UC & Sec Lic, PVDM4-64
- 13- Managed Lan Meraki Switch (Dynamic Routing, 48 Port, Physical Stacking Switch L3 Networks (with 2 SFP 10G)
- 14- Aggregation Switch MS425-32 (with 2 SFP 10G), and optional redundant of the same model.

- **Sizing Criteria**

- 1- DIA speed is based on calculating 40% of the user (the given Number of users is 350 User) quantity (used calculation if the speed is not specified by the customer) plus, the bandwidth required for the CCTV cameras that is 1Mbps per camera. The total will be 200 Mbps
- 2- the IPVPN is needed for the HCS signalling, therefor a low speed is enough, selected 5 Mbps, with a guide line from Cisco below:

There is a reference from Cisco for the bandwidth sizing for the collaboration

https://www.cisco.com/c/en/us/support/docs/voice/voice-quality/7934-bwidth_consume.html

We calculated the g729 call to be total 18 Kbps, so when multiplied by 250 we get
Almost 5 Mbps total including the MPLS and headers overhead.

- 3- The number of access points is based on Heat map (will be attached in a separate file)

- **Service Roles & Responsibilities:**

- Acceptance criteria

The respective acceptance tests will be conducted by the respective managed services teams, and the resources will be shared with PIF team at the time of the execution.

- **General Assumptions and Exclusions:**

- 1- The delivery time needed not more 2 weeks from the registration on the marketplace.
- 2- The customer is responsible for providing and ensuring the all the environmental requirements of the HW, including power, structured cabling, electromechanical, cooling..etc.
- 3- The offer doesn't cover links redundancy for incubator; as discussed with PIF and their consultants.

- **Exclusions:**

- 1- Will not be responsible for any civil work.
- 2- Will not be responsible for any passive or power works unless mentioned in the BoQ.
- 3- Will not do any integration with other systems unless it defined in the scope of work or deliverables.
- 4- All onsite work will be performed at a single physical location (unless otherwise agreed).
- 5- Any Third-party integration not mentioned in BoQ is out of scope
- 6- Any tasks require development, programming, API or web SDK are out of scope
- 7- UTP and fibre cabling and patch chords are out of scope.
- 8- Passive termination materials like patch panels, modular, faceplate etc. are out of scope
- 9- Provision of cooling system and UPS are out of scope.
- 10- Providing SSL certificate is out of STC scope.
- 11- The scope is limited to the BoQ in section 11.1, where any additional components requested by
- 12- The customer, will be treated as new scope and requires a change request.