Proposal Response to:

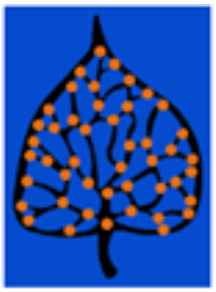
TacDoh

For:

Network Management

Version 1.00

111th April 2003



Bangalore Labs

17-18, Level 7, Innovator

International Tech Park

Bangalore – 5600 066.

Contents

1. Executive Summary

TacDoh is 5 years old food services Company. TacDoh is looking to outsource its network management primarily to reduce and predict network management cost, without affecting the quality of service.

Bangalore Labs propose a solution to TacDoh that not only addresses the above requirements of TacDoh but also is efficient and at the same time economical.

Below table shows the breakup of the device to be managed

	Chicago	Newark	Atlanta	Branches
Cisco 2600 Router	0	0	0	300
Cisco 7200 Router	2	1	1	0
Cisco 6509 w MFRC	1	0	0	0
Extreme Summit24e2	20	0	0	300
Extreme Summit48i	10	0	0	0
Foundry FastIron Edge Switch 2402	0	5	5	0
Foundry FastIron Edge Switch 4802	0	5	5	0
Alcatel Omniswitch 6624	0	5	5	0
Route Science 3100 Path Control	1	1	1	0
Adtran IQ 710	0	0	0	300
Symbol 4131 AP	6	3	3	300
T3	1	1	1	0
T1	1	1	1	0
FracT1	0	0	0	300

Minimum Requirements

The following minimum requirements are essential to participate in this Network Management Services review. Please check all that apply.

✓_ LAN and WAN network management
✓_ Onsite support as needed or through a third party.
✓_ SLM with reporting and billing adjustments for violated thresholds.

2. Term of Reference

RFI send for Outsourcing Network Management

3. Bangalore Labs understanding of TacDoh requirements

3.1. Business Service Goals

TacDoh has the following business service goals for network management:

1. Reduce and predict network management costs
2. Completely outsource configuration, monitoring, reporting, planning and maintenance of all network infrastructure at each warehouse, store and corporate location
3. Reduced level of help-desk and operations support
4. Availability service levels at the store level of 99.9.
5. Availability service levels at regional warehouse facilities of 99.99
6. All transactions must take less than 5 seconds, with network transit time under 2 seconds.
7. 24/7 network availability supporting online transactions and customers' wireless transactions to the regional warehouses. This includes local store POS servers, switches, wireless AP, WAN CPE and WAN circuit monitoring. Management.
8. Auto-dial back-up needs to be accomplished within a five minutes of dedicated circuit outage. Dial back up also must be dropped within five minutes of the dedicated circuit being restored.

3.2. Specific Requirements

Apart from the business service goals TacDoh has some specific requirements in the below areas to be addressed by vendor. The areas are:

1. Reporting
2. Sales tracking integration
3. SLA reporting
4. Circuit billing
5. Performance Matrix
6. On-Site support

4. Bangalore Labs Solution

Bangalore Labs is premier global Managed Service Provider (Network and Security) based out of India. Bangalore Labs uses the combination of people, process and technology to deliver its services from Bangalore Labs IMaRC™ (International Management and Resource Center). Bangalore Labs has its presence in India, US and Australia.

People
IMaRC team is staffed by some of the best cross-platform experts in the industry, certified by world leaders like Aprisma, Cabletron, Checkpoint, Cisco Systems, Computer Associates, Hewlett Packard, Lucent Technologies, Microsoft, Nortel Networks, Oracle and Sun Microsystems, amongst others

Process
Bangalore Labs follow the **ITIL** (IT infrastructure Library) framework to develop its processes at the IMaRC. Bangalore Labs uses both Service support and Service Delivery processes to deliver services to its customers across the globe.

Technology
Bangalore Labs uses **HP OpenView** suite of products well integrated with **Remedy** for incident handling. HP OpenView suite of products are again integrated with element managers like CiscoWorks, Optivity etc.

4.1. Business Service Goals

Bangalore Labs have understood TacDoh's requirements. However the Network Infrastructure details to be managed given in the RFI are not sufficient to address the specific requirements of availability mentioned in Business Service Goals.
Bangalore Labs believes availability is not limited to a device or a link but it's the service availability that is important from a customer point of view. Hence availability of a store or a warehouse is the combined availability of Server, Application, Link and Networking Device.
Since server management is out of scope of this RFI, Bangalore Labs has not mentioned it specifically. But in places where specific availability requirement is mentioned, Bangalore Labs propose to monitor servers in addition to Network devices and links and report on service availability.

Reference: RFI document
Section: Business Service Goals

1. **Reduce and predict network management costs**

   Bangalore Labs will connect to TacDoh's Newark warehouse (The nearest point of link connection) from its PoP in New York; Bangalore Labs proposes two options (with ISDN backup) to connect to TacDoh
   - IP-VPN
   - Leased Line

   Since TacDoh uses Cisco 7200 Router, it can be configured for IP-VPN for management and no end equipment is required.
   Bangalore Labs PoP is connected to 512Kbps-leased line to Bangalore Labs India. 24x7 Monitoring and management will be based out of India.
   Being based out of India Bangalore Labs provides a unique cost advantage to TacDoh. The total cost for TacDoh will reduce considerably without compromising the Quality of Service.
   The services required by TacDoh under Network Management are:
   - Fault Management
   - Performance Management
   - Configuration Management
   - Change Management
   - SLA Management
   - Reporting

a. The table below provides the price per device of the **ongoing service mentioned above for a contract period of one year**.

S.No	Device Name	Price/Device/Month	Quantity	Price/Month
1	Cisco 2600	150	300	42000
2	Cisco 7200	200	4	800
3	Cisco 6509	200	1	200
4	Extreme Summit24e2	175	320	51800
5	Extreme Summit48i	175	10	1750
6	Foundry FastIron Edge Switch 2402	175	10	1750
7	Foundry FastIron Edge Switch 4802	175	10	1750
8	Alcatel Omniswitch 6624	175	10	1750
9	Route Science 3100 Path Control	200	3	600
10	Adtran IQ 710	175	300	49000
11	Symbol 4131 AP	175	312	50680
12	T3/T1/	-	6	
13	FracT1	-	300	
	Total Price			**202080**

b. The cost of **customer acquisition** or cost associated with converting to Bangalore Labs network management service is mentioned below:

S.No	Activities	Responsibility	Duration (Days)
1	Link connectivity between Bangalore Labs (New York) and TacDoh (Chicago) with ISDN backup.	TacDoh (Bangalore Labs will coordinate with Link Provider)	10
2	Provisioning for Monitoring o Enabling SNMP and Community strings for all monitored routers and switches o Provisioning template o Testing for SNMP trap generation for Network devices	Bangalore Labs	3
3	Access and privilege password of networking device for change and configuration management	TacDoh	1
4	SLA Finalization o Timelines for S1, S2, S3 escalations finalization o Escalation and notification matrix and mechanism (e-mail, SMS, phone alert etc.) o SLA document finalization	TacDoh/Bangalore Labs	4
5	Remedy workflow customization	Bangalore Labs	5
6	Reporting portal customization as required by TacDoh. This includes sales tracking integration/ SLA reporting/ Circuit Billing data/ Performance reporting	Bangalore Labs	10
7	Pilot Kick off	Bangalore Labs	30
8	End of Pilot o Identify areas of Improvement o Fine tuning	Bangalore Labs/TacDoh	5
9	Go Live	Bangalore Labs	

Total number of Mandays effort = 33
The total cost associated with converting to Bangalore Labs network management service is: **USD 13200**
All the equipments and tools used will be Bangalore Labs and TacDoh doesn't have to buy any tools/equipments or licenses.

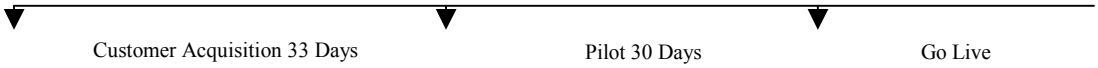
The cost mentioned above doesn't include Link cost, the link cost will vary based on the option selected by TacDoh.

c. The cost of converting off the service to in-house.
The cost associated with converting the service in-house will be **USD 1200.**

d. The cost of converting off the service to another network management service provider
The cost associated with converting the service in-house will be **USD 1200.**

If TacDoh wants to terminate the service before the contract period, one-quarter service charge will be charged.

Note: Bangalore Labs will provision the link connectivity; but TacDoh will have to get into termination agreement with link service provider.



Reference: RFI document
Section: Business Service Goals

2. Completely outsource configuration, monitoring, reporting, planning and maintenance of all network infrastructures at each warehouse, store and corporate location.

Network Management is categorized into five key functional areas **"FCAPS"** (Standardized by ISO), **F**ault Management, **C**onfiguration Management, **A**ccounting, **P**erformance Management and **S**ecurity Management.
Bangalore Labs uses FCAPS framework for network management.
FCAPS covers most of the requirements mentioned in this service goals.
They are:

- Fault Management:
    a. Includes 24x7 network **monitor** and management of the network infrastructure.
    b. Trouble ticket generation, call logging, call handling & tracking to closure.
- Performance Management
    a. Link performance
        1. Performance
        2. Error
    b. Device performance
        1. CPU
        2. Memory
    c. Performance management reports will help in better **planning** of network infrastructure (Links and Devices). These reports help in **capacity planning** that would lead to better resource utilization.
- Configuration Management
    a. Last 3 **configurations** of all the network devices
    b. **Configuration** management database (CMDB)
    c. Integrated with change management process to ensure CMDB is updates all the time
- Change Management
    a. Change Request
    b. Change Approval
    c. Change Planning
    d. Backout option
    e. Change Implementation
    f. Configuration Management database updation
- SLA Management
- Reporting

a. Online **reporting** through secure Envision-IT portal from Bangalore Labs and monthly executive reporting.
b. User based access, access control by TacDoh administrator
c. Standard reports by store, region and complete network infrastructure

For all onsite maintenance Bangalore Labs will charge TacDoh on hourly basis

Service/Requirements	Configuration	Monitoring	Reporting	Planning	Maintenance
Fault Management		X			We are assuming TacDoh is in AMC with the vendor. BL will coordinate with the vendor for maintenance activities or Bangalore Labs will tie-up with a vendor to provide maintenance at sites.
Performance Management				X	
Configuration Management	X				
Change Management					
SLA Management					
Reporting			X		

Reference: RFI document
Section: Business Service Goals

3. Reduced level of help-desk and operations support

The table below shows the split between on-site and remote activities for Network Management. This will give an approximate indication of the number of personnel required by TacDoh for helpdesk and operations support.

Remote Activities	On-Site Activities
Monitoring	Coordination with vendor during Maintenance
Management	Spare Replacement
Change	Upgrades
Configuration	Power on/off during scheduled maintenance
Reporting	
Planning	

With the current staffing plan around 50% of the manpower related to network management (Data Network, Helpdesk, IT Management, Data center) can be reduced.

4. Availability Service Level at the store level of 99.9%

Bangalore Labs understands store level availability as combined availability of Application, Server, Link and Networking device. As all of them contribute towards providing service to the customer.

Bangalore Labs does not give SLA on availability as availability is server, application, device or link dependent and Bangalore Labs as a managed service provider has no control over the them, but Bangalore Labs can give SLA on the response, notification and escalation time of the incident. Bangalore Labs will ensure proper attention to any event generated and track it to closure. A sample severity 1 escalation matrix shown below indicates that each event is captured and escalated to right authority at then right time.

Severity 1 Sample Escalation Matrix

Elapsed Time	Technical Escalation	Operational Escalation	Notes
BL IMaRC detects incident	Tier 2 Engineer	Shift Manager	Call received from customer (or) proactively deduced at the IMaRC
15 Minutes	Tier 3 Engineer		End of 15 Minutes Remedy system alerts a Tier 3 Engineer
30 Minutes	Vendor		End of 30 minutes the Shift manager alerts the Vendor to reach the site if required
2 Hours		Delivery Manager	Escalation Notification send to Operations Manager
4 Hours		Technical Director	Escalation Notification to Technical Director
12 Hours		Country Manager	Escalation Notification to Country Manager

Bangalore Labs can provide service availability SLA. Service availability is the availability of the service provided by Bangalore Labs.
Service Availability is calculated on a monthly percentage basis ("Service Availability Percentage," or "SAP") is as follows, during the month in which the Trouble Ticket was opened: SAP = 1 minus (Total minutes of Service non-availability per month / Total # days in month x 24 hrs x 60 min) x 100.
For Service Availability below 99.9% in any calendar month, at TacDoh's request, TacDoh's account shall be credited for the pro-rated charges for one day of the Bangalore Labs Monthly Charge for the service with respect to which a Service Availability Objective has not been met. TacDoh may obtain no more than one credit day per month, irrespective of how often in that day Bangalore Labs failed to meet the Service Availability Service Level.

5. Availability service levels at regional warehouse facilities of 99.99%
Same as point 4

6. All transactions must take less than 5 seconds, with network transit time under 2 seconds.
Bangalore Labs will audit the current configuration of the devices. If required Bangalore Labs will reconfigure the QoS of the device to deliver required transaction time. Delivery systems will be configured to send an alert if the network transit time exceeds 2 seconds, and it will be reported at the end of the month.

7. 24/7 network availability supporting online transactions and customers' wireless transactions to the regional warehouses
Bangalore Labs will 24x7 monitor and manage all the network devices involved in network availability for online transactions and customers' wireless transactions to the regional warehouses. POS server will be SNMP monitored and will be charged separate (Not included in the current pricing scheme).
Bangalore Labs believe end-to-end service availability is the right measure of availability. For example, for SitAnywhereTacDoh service, availability of the Switch or Router or Link alone is not sufficient. Availability of all the devices involved in providing the service is important.
Availability is calculated as:
Service Availability = A1 (Symbol 4131) x A2 (Extreme Summit 24e2) x A3 (POS) x A4 (Cisco Router) x A5 (Adtran IQ 710).
Hence service availability is the end-to-end availability of the devices involved in service delivery.
Bangalore Labs will **report** on these availabilities through
1 On-Line Portal
2 Monthly Reports

8. Auto-dial back-up needs to be accomplished within a five minutes of dedicated circuit outage. Dial back up also must be dropped within five minutes of the dedicated circuit being restored.
Router will be configured at each POS, store and warehouse to auto dial to back-up link in case of dedicated circuit outage and once the dedicated link comes up back-up link will be dropped.

4.2. Specific Requirements

1. Reporting

Bangalore Labs provide reports through:

- A secure on-line reporting portal **Envision IT**
- Monthly Executive reports uploaded on the portal every 3rd day of the month.

Envision IT

Envision IT portal is a secure online portal through which TacDoh users can view reports. Envision IT empowers the customer's administrator to define (view/define/request) and restrict access to reports based on user profile. Users can also print reports through Envision-IT.

Standard reports on Location/Site/Link/Device/Overall network will be available on the portal 24x7x365. These reports are will be on

- Utilization (Link/device CPU, memory)
- Errors (Link Errors, FECN/BECN)
- Link Throughput (Bytes/%) from warehouse to top N locations
- Availability (Last 15 days/Last 30 days) on device and link
- Top N talkers from Warehouses/Stores/Corporate

Other reports like 95% overlays, Historic Averages, minimums, maximums etc. are not standard reports provided through Envision IT, but on getting details and specific requirements it can be provisioned.

Envision IT is more than reporting on the above, it also enables the users to do the following

- Log and track a call
- Log and track a change request
    i. Bangalore Labs uses ITIL guidelines for all its processes. Change requested goes through proper change approval, change planning, change implementation and change backout.
- View current open tickets with WorkLog details
- Contract/SLA information (Based on the profile of the viewer this can be controlled)
- Other options like
    i. Contact Details
    ii. E-mail request

Application flow performance data report can be provided. Bangalore Labs will collect application related data from Adtran at its PoP in New York and transfer it to Bangalore Labs on a daily basis. These reports will be published on last day/last week basis on the portal. This will be charged extra.

Monthly Reports

Apart from online reports, Bangalore Labs will also provide monthly executive reports to TacDoh. These reports provide summary of last month. These include:

- Exception Reporting
- Recommendations
- Top N Devices by incidents
- Top N sites by incidents
- Number of peak hour / Non peak hour incident
- Number of changes carried out
- Last configuration backup date
- SLA reporting
- Event summary (Breakup of Severity 1, Severity2 and Severity 3)

2. Sales Tracking Integration

Bangalore Labs will be able to capture the required data i.e.

- Local stores local servers CPU and Memory usage
- Each stores network latency and utilization

- Transaction flow analysis split between "SureWeKnowU" traffic and POS traffic.

The data can be provided in XML form as required to fed to the in-house application, TacDoh Mixer, but will be charged extra.

3. SLA Reporting

Bangalore Labs can take SLA's on:

1. Incident response time
2. Incident notification time
3. Incident escalation time (Customer/On-Site/Vendor)
4. Bangalore Labs service delivery
5. Change Implementation time
6. Reporting

Bangalore Labs will report/ provide notification (SMS, E-mail, Pager, Phone) in case of SLA violations or near violations.

Bangalore Labs will also monitor and report on all provides SLA's. Bangalore Labs will report these SLA's to TacDoh and TacDoh in turn will have to talk to the providers.

Bangalore Labs will audit with the provider and report it back to TacDoh. This service will be charged extra based on man-hours spent in auditing and reporting.

4. Circuit Billing

Bangalore Labs can audit the WAN billing based on CIR, burst and utilization and report it back to TacDoh. This service will be charged extra on a per link basis.

5. Performance Matrix

Data collection will happened at New York PoP and will be send to Bangalore IMaRC once in a day, this data goes into Oracle database and reports are generated.
The performance matrix required by TacDoh can be provided as performance reports through Envision IT portal. However Server management is not included in this scope hence **server disk space utilization** will not be reported. If this is a specific requirement server will be monitored and reported upon on a per server charge basis
The data will be retained as required by TacDoh at no additional cost. TacDoh administrator can define user access to the portal based on user profile.

6. On-Site Support

Bangalore Labs will provide 3 on-site personnel at the warehouses in Chicago, Newark and Atlanta during business hours. These on-site engineers will be managing all the connected branch offices from these warehouses.

The response time matrix is as below

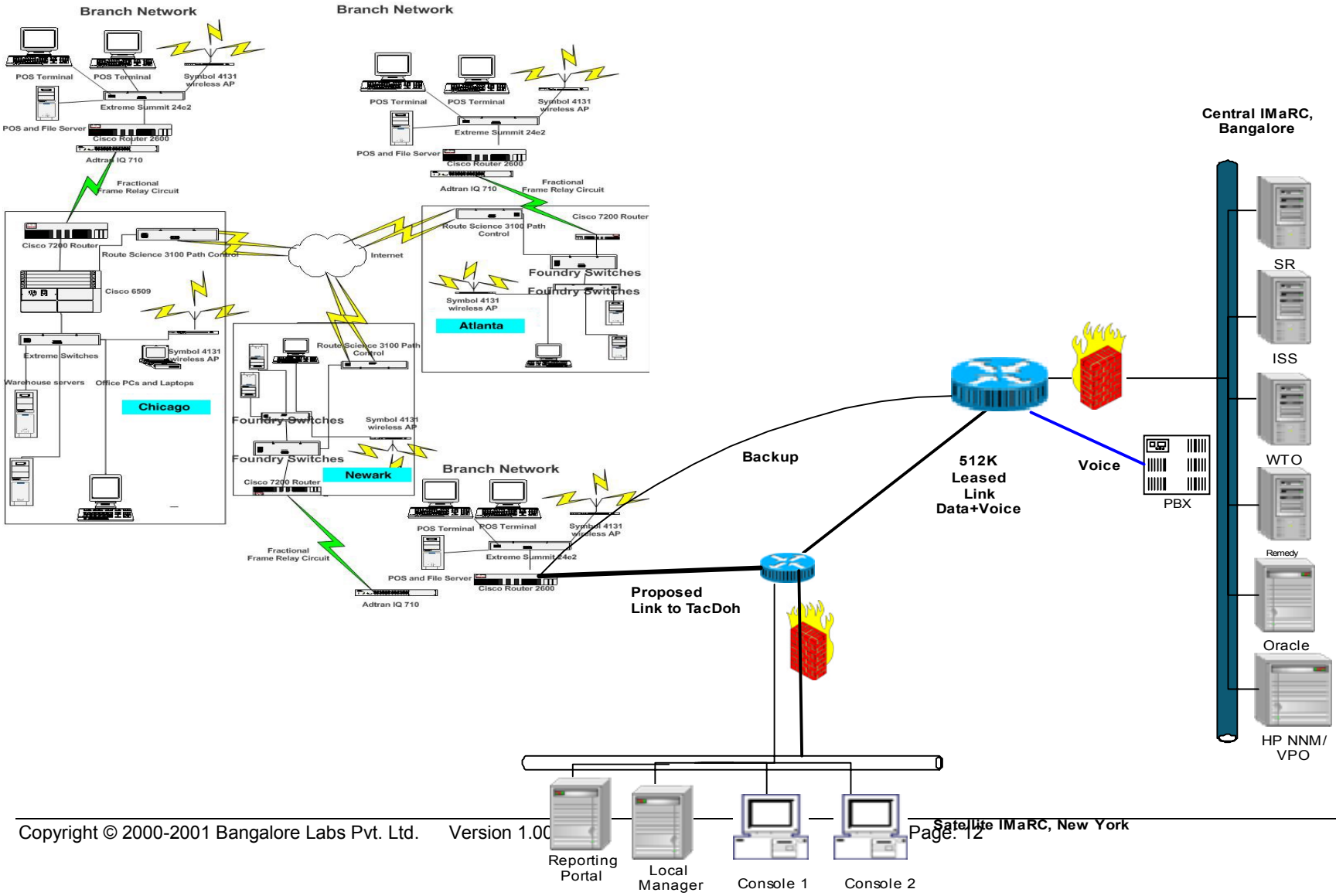
Location	Response Time
Warehouse	Immediate during business hours Next day during off business hours
Branch	Next business day

- Travel and stay will be at actuals and will be billed monthly.
- For all the conditions mentioned by TacDoh for on-site support, per hour rate ($70) of the engineer will be charged

7. Management Application

Bangalore Labs uses HP OpenView suit of products to manage customers network infrastructure. Bangalore Labs will not replace helpdesk tool currently used at TacDoh. Network management activities will be carried out using Bangalore Labs tools at Bangalore Labs IMaRC and TacDoh's existing network management tools will not be required

4.3. Delivery Architecture



4.4. Commercials

S.No	Activities	Price (USD)	Price Type
1	Customer Acquisition (Please refer Business Service Goals Section 1-b for detailed activities)	13200	One time Charge
2	Service Pricing	202,080	Per Month Charge
3	Application flow performance data reporting	1100	Per Month
4	On-site Charge*	70	Per Hour
5	Audit Charge (SLA+WAN)*	100	Per Hour
7	Server Monitoring and Reporting (SNMP)	250	Per Month Per Server

- *On-Site Support and Audit charges will be at actuals.
- One time charges needs to be paid in advance
- Monthly Service Charges (Activity S.No 2) needs to be paid quarterly in advance.

5. About Bangalore Labs

5.1. Managed Service

In the past, IT organizations were internally focused and concentrated on technical issues. However, with the growing dependence of businesses on IT, there is a higher expectation towards the quality of IT services and these expectations are constantly increasing with time. To measure and match up to these expectations, it is important for IT organizations to concentrate more on service quality and adopt a customer oriented approach. A business like attitude to the provision of service and the costs associated with these has become high on the agenda for all businesses.

To deliver business like services it is imperative for IT organizations to build a system and service management framework. System Management is the use of enterprise management tools to identify problems, detect inefficiencies, and take corrective action on a proactive basis. Service Management is focused on the business customers' requirements and implies that the customers' requirements are known and not assumed. It is designed around maximizing availability, responsiveness, cost effectiveness, and a quality service to the customers at an agreed upon cost level. The different processes and activities involved in using a Service management approach are illustrated in Figure 1.

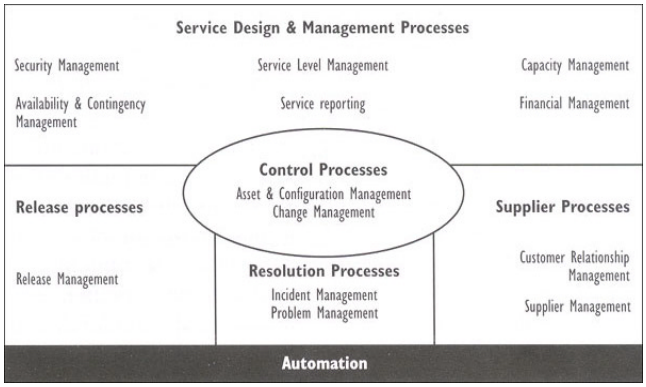


Figure 1: Service Design and Management Processes

Some of the benefits of IT Infrastructure management using a system and service management framework are:

- Improved quality of service – more reliable business support
- IT service continuity procedures are more focused, and higher confidence in the ability to follow them
- Clearer view of current IT capability and opportunities where changes can bring about most benefits
- More motivated staff; improved job satisfaction through better understanding of capability and better management of expectations
- System-led benefits for example, improvements in security, accuracy, speed, availability as required for the required level of service
- Enhanced customer satisfaction

5.2. IMaRC @ Bangalore Labs

Figure 2: IMaRC at Bangalore

Management Service Providers deliver information technology (IT) infrastructure management services to multiple customers over a network on a subscription basis. MSPs operate similarly to Application Service Providers (ASPs) in that they deliver services via a network that are billed to their clients. Bangalore Labs is India's first Management service provider, and delivers IT infrastructure management to customers globally through its International Management and Resource Centre (IMaRC) across the globe. The IMaRC is located at the International Tech Park in Bangalore, India's most modern technology campus.

5.3. What can we manage?

The vision for the IMaRC is to provide "Application Quality of Service (AppQoS)" to business users. In order to provide AppQoS, we need to monitor and manage the following components, as depicted in Figure 3. The products currently Supported by the IMaRC are:

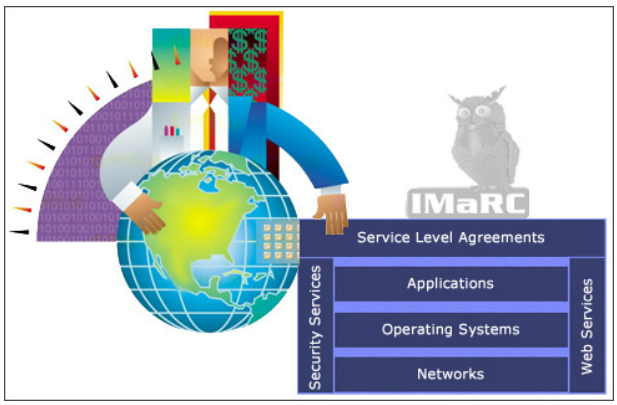


Figure 3: What can we manage?

Network: Cisco, Nortel, 3Com, Cabletron, Alteon, Juniper, F5, Foundry Networks, Siemens, 3Com, etc

OS: Windows (NT & 2000), HP-UX, Linux, Sun Solaris

Databases: Microsoft SQL, Oracle

Applications: SAP, Exchange, Lotus Notes, etc.

Messaging: Microsoft Exchange, Netscape

Web: Microsoft IIS, Netscape (NAS, NES), Apache

Security: Checkpoint, NA Gauntlet, Raptor, Cisco PIX, Novell BorderManager, Nokia, Proxy servers

Storage: NetApps and EMC

5.4. The Solution Framework

Bangalore Labs develops a unique solution for each of its clients. To provide these services, Bangalore Labs have developed a solution framework.

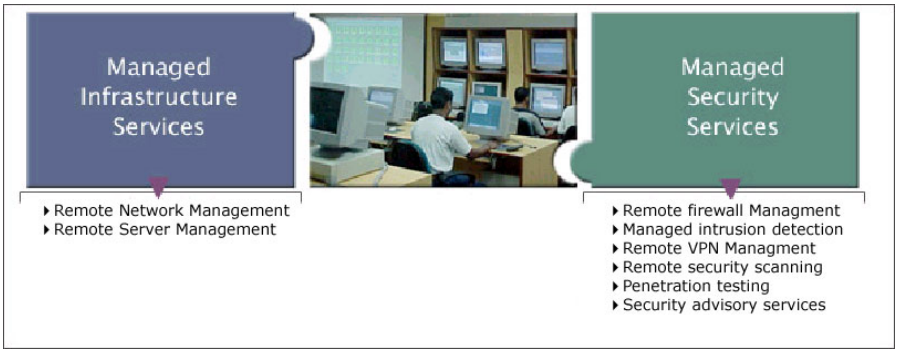


Figure 4: MSP Service Offerings

5.5. IMaRC Infrastructure

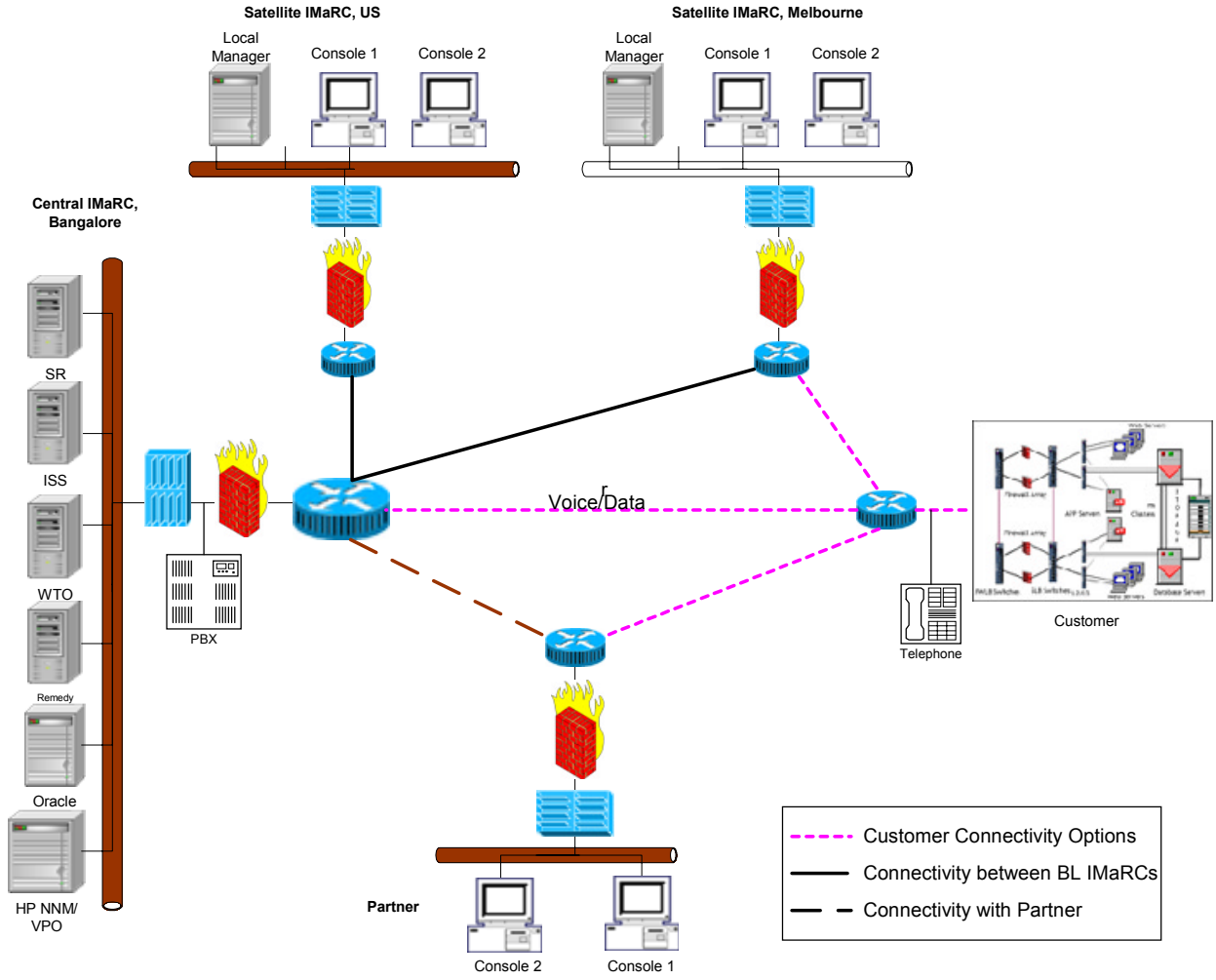


Figure 5: IMaRC Infrastructure

The IMaRC is located at International Tech Park in Bangalore, one of the India's best corporate infrastructures. The IMaRC is connected to the external world (customers) via dedicated leased line facilities, and the Internet as a backup. A secure tunnel via a Virtual Private Network (VPN) is created to the customer premises, service provider or data center premises. Customer connectivity, for both domestic, as well as international customers is highlighted in Figure 5.

The BL IMaRC has multiple levels of redundancy at the network level (multiple services providers and multiple media of connectivity – using Videsh Sanchar Nigam Limited (VSNL), India's state owned ISP (situated on top of ITPL premises – no local loop), fiber (on the ground) to the routed via multiple Telco exchanges, to the Backbone Service Provider. BL uses India's premier Internet VPN Backbone Service Provider – Global Electronic Commerce Services (GECS) – to connect using FR permanent virtual circuits (PVCs) to their customer. BL-IMaRC derives its power from ITPLs captive power plant (9MW capacity) and backed by State Electricity Grid. The wiring to IMaRCs power distribution units are dedicated and rated by experts. The IMaRC facility is backed up redundant (100%) UPSs.

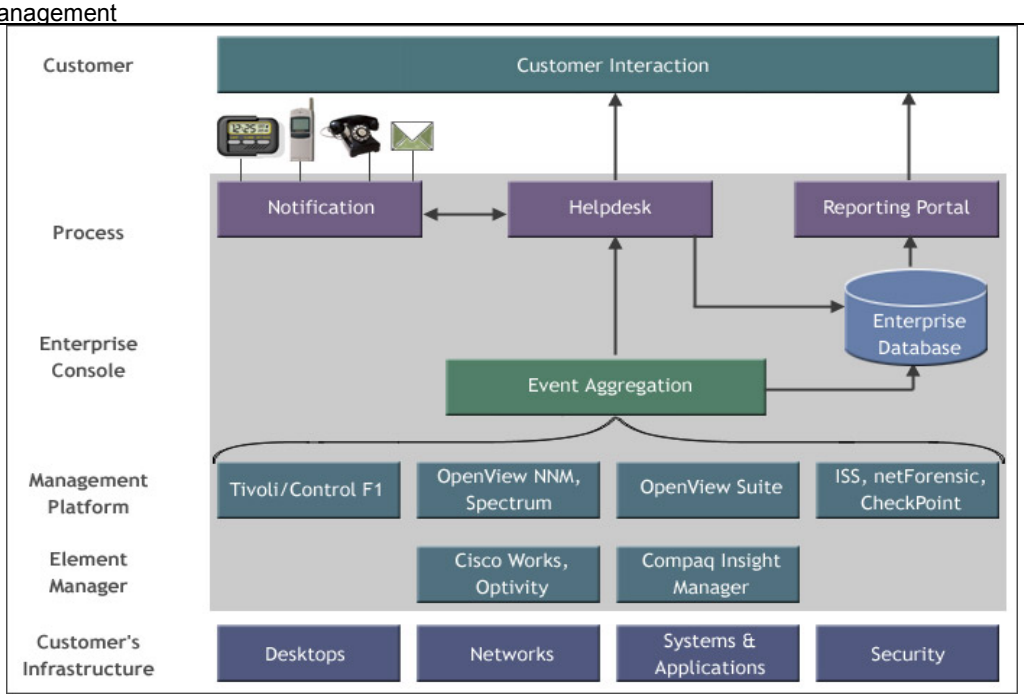


Figure 6: IMaRC Technology Architecture

Network & Systems Management

- HP OV Operations
- HP OpenView Network Node Manager
- Aprisma Spectrum
- Optivity from Nortel

Security Management

- Network and System Scanner from ISS
- Real secure from ISS

Service Management

- Remedy Help Desk
- Attention Notification System
- Envision IT Service Portal

Remote management will be enabled for IMaRC (International Management and Resource Center) located in New York.

The Central IMaRC located at Bangalore, has the capability to provide round-the-clock support. This satellite IMaRC is connected through redundant links to the main IMaRC at Bangalore. The purpose of creating Satellite IMaRC's is to ensure that local support is made available to the customers in the region and most importantly to build complete redundancy thus ensuring continuous service to the customer's worldwide.

IMaRC facility can manage multiple customers IT Infrastructure including applications, systems, databases, networking elements, connectivity, security, and Internet performance remotely on a 24x7x365 basis.

5.6. IMaRC Process Framework

Bangalore Labs follow the ITIL (IT infrastructure library) framework to develop its processes at the IMaRC. Developed in the late 1980's, ITIL has become the worldwide *defacto* standard in Service Management. The process components follow the ITIL standards and can be depicted as shown below.

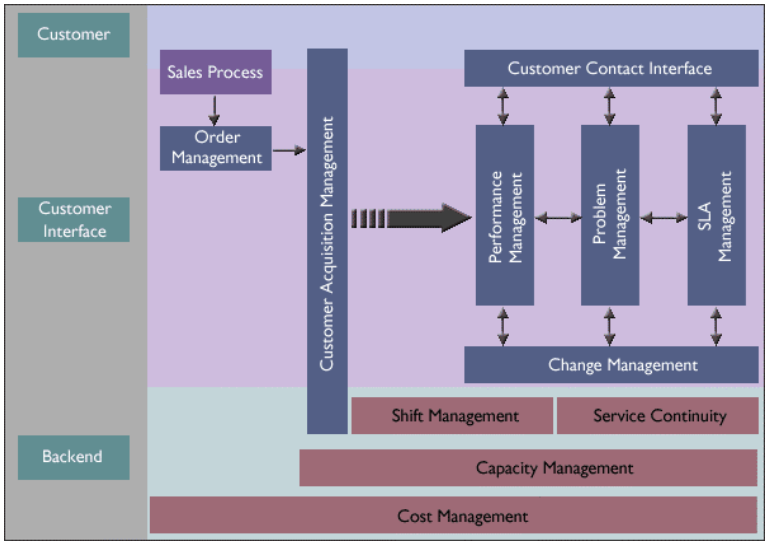


Figure 7: IMaRC Process

5.7. The People at IMaRC

IMaRC team is staffed by some of the best cross-platform experts in the industry, certified by world leaders like Aprisma, Cabletron, Checkpoint, Cisco Systems, Computer Associates, Hewlett Packard, Lucent Technologies, Microsoft, Nortel Networks, Oracle and Sun Microsystems, amongst others.

5.8. Service Level Agreements

We believe that any service level defined between Bangalore Labs and its customers should be driven by the service level requirements of the business users. This facilitates the establishment of a framework where service level performance is measured on an ongoing basis and parameters for improvements can be clearly established.

Corrective Management									
Severity Level	Time (in minutes) to								% Compliance
	Notify Customer	Notify Vendor	Arrive (0-25 kms)	Restore service (from time of Arrival)	Resolve problem	Escalation in Customer Organization	Escalation in Vendor Organization	Deliver Problem report	
Severity 1	10	20	60	90	Within 24 hrs	45	45	180	97%
Severity 2	10	30	90	120	Within 48 hrs	60	60	Daily	97%
Severity 3	10	45	Within 24 hours	200	In 5 business days	90	90	Weekly	97%
Severity 4	10	60	Next Business Day	200	In 10 business days	120	120	Weekly	97%

Figure 8: Sample SLA

5.9. Why Outsource?

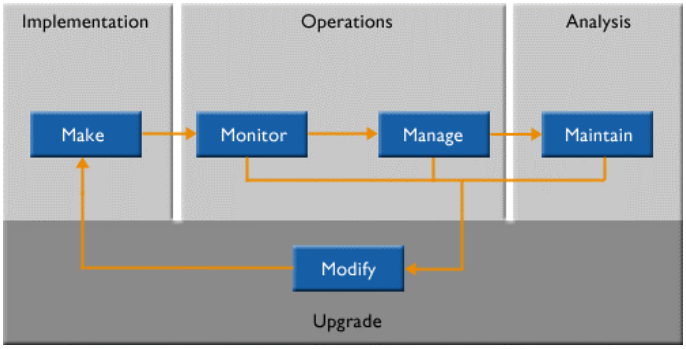


Figure 9: 5M Model

Firstly, the return on investment is higher when you go with subscription services. Secondly the cost is very straightforward, customers are going to recognize what they're getting and what the price is per month. And, if they're not satisfied, they can simply end the service. That puts the onus on the vendor to execute, but it also helps clarify what the value proposition is and what they're paying for. Thirdly, with the crunch in IT staff, anything that can help them do their jobs better is something that's certainly worth a look at. The other aspect many organizations fail to perceive is the complexity of doing it yourself. 70% of Enterprise management implementations fail. Infrastructure Management in an enterprise setting goes through 5 clear phases in its lifecycle. This is captured in the '5M' model of **Bangalore Labs** as outlined in Figure 9.

The 5 main phases as can be seen are the following:

- **Make** – this refers to the implementation phase where the infrastructure management system is established
- **Monitor** – this refers to the infrastructure management operations phase where the infrastructure is monitored passively
- **Manage** – refers to the operations phase where the problems in the infrastructure are resolved on a reactive basis when they occur
- **Maintain** – refers to the activities associated with the analysis and proactive management of the infrastructure to prevent occurrence of problems.
- **Modify** – the final phase of infrastructure management that handles the upgradation of the management facilities and tools to keep abreast with the latest developments both internal to the network in terms of enhancement and also external in terms of better tools and methodologies.

Figure 10: Phases in 5M Model