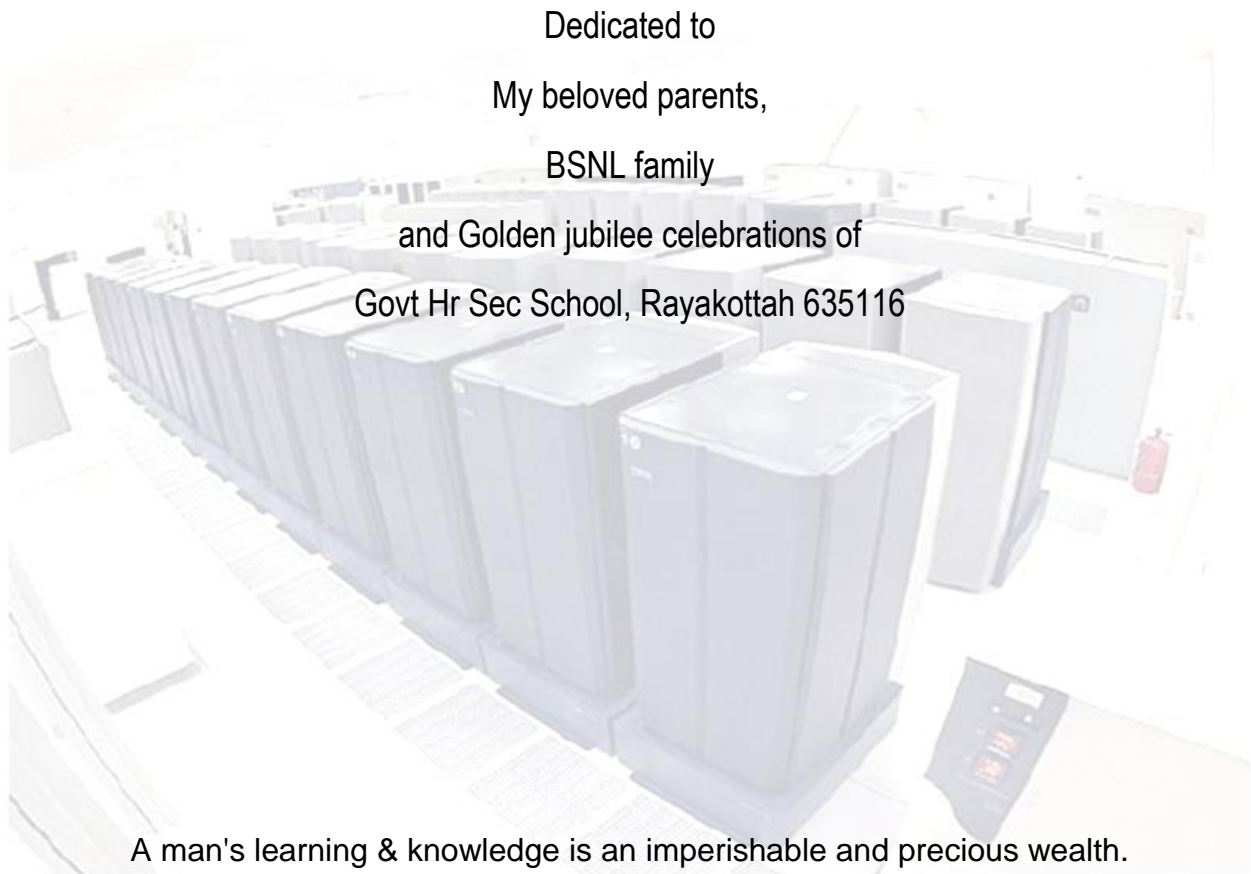


# Data Center Business Opportunities

(A case study with SWOT analysis)

N.Muralidharan

**SUCHI SUKI BAHAVA**



Dedicated to  
My beloved parents,  
BSNL family  
and Golden jubilee celebrations of  
Govt Hr Sec School, Rayakottah 635116

A man's learning & knowledge is an imperishable and precious wealth.

- liyan Thiruvalluvan

This document is only for BSNL staff & do not disclose to others

## CONTENTS

1. Data Center
2. Introduction
3. Classification
4. Potential Customers for DC
5. SWOT Analysis
6. Acknowledgements



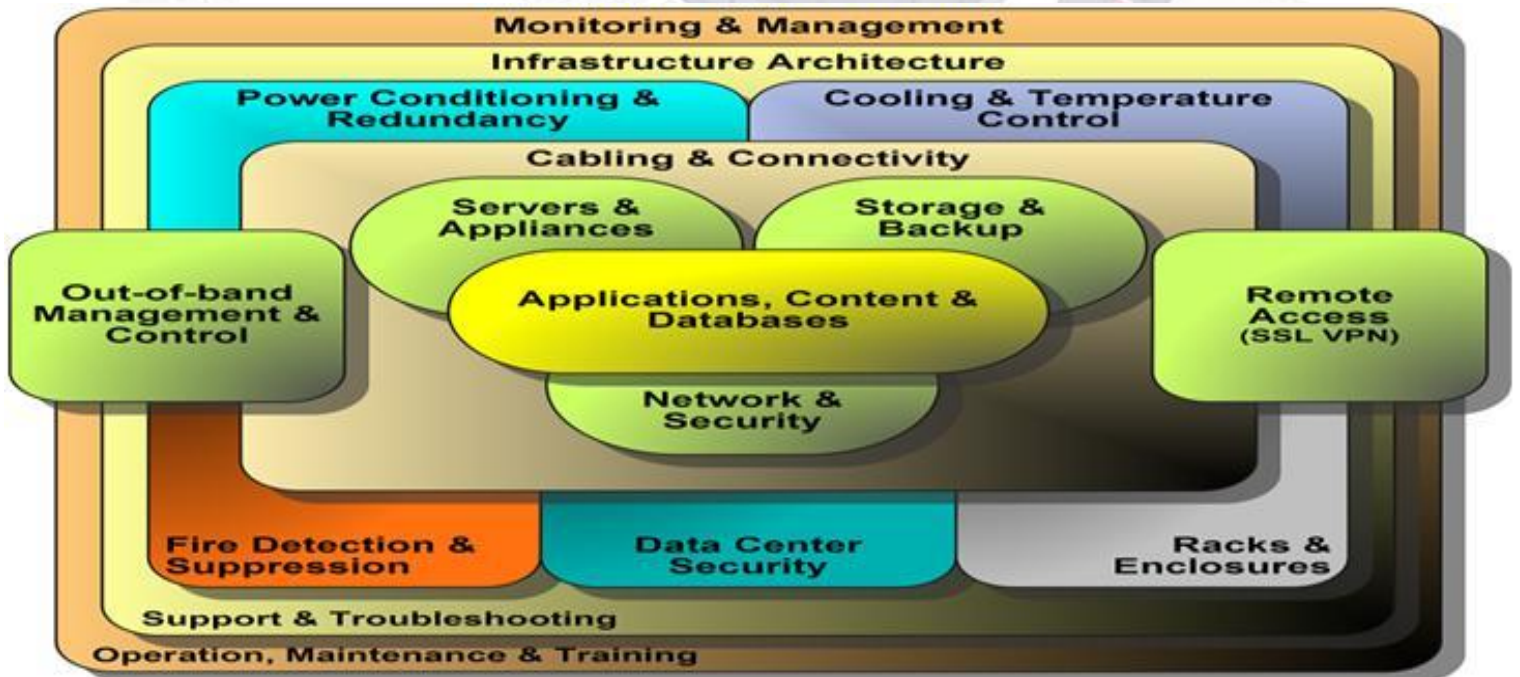
## DATA CENTER

### Introduction

The Data Center is nothing but house of storage servers which protects and stores the data. In BSNL, many of us are aware of Data center (DC) as our own billing centers. But the DC is more than this. It is a separate business segment and it is most happening & emerging market in IT enabled services. For example a BANK wants to store its customer related data & Transactions data in a highly protected centralized environment, for which it requires storage servers & connectivity to all of its branches processing counters. The connectivity can be taken from Telcos, but for the storage servers either it can set up by its own or it can go for third party service provider on contract basis (i.e. outsourcing model). Also not only the Banks all the transaction based industries/institutions requires DCs for their storage.

This third party service provider is nothing but the Data Center service provider. Mostly many of the banks are outsourcing their storage requirements to the DC service providers. The following are the reasons for this outsourcing model

1. CAPEX of setting up this DCs are high, so for small institutes/industries it is not financially beneficial.
2. For larger institutes/industries the maintenance become key factor and the storage server & networking is totally different from their banking operations. So they will prefer out sourcing model.
3. Every DC has to set up a Disaster Recovery center as back up of primary DC again this will increase the CAPEX
4. In some cases the transaction based industries outsources their application software requirement & DB requirement along with this storage requirement to some Software Consultancies. This Software consultancies in turn, will make a tie up with Telcos & third party DCs



- The transaction based industries are not having suitable skilled people to handle the Storage Servers & Networks

Now we got an idea about DC & also understood the primary factors which are driving this outsourcing model.

### Classification of the DCs

The DCs can be classified in two ways based on the 1. Services it offers 2. Security & Protection environment it has. These classifications are for simple overview, analysing in-depth there will be several types.

### Environment based classification

Predominantly this classification is termed as Critical Level or Tier level. This classification are based on the components / blocks used in power system, fire protection system, ventilation etc

Tier Level	Requirements
1	* Single non-redundant distribution path serving the IT equipments
	* Non-redundant capacity components
	* Basic site infrastructure guaranteeing 99.671% availability
2	* Fulfils all Tier 1 requirements
	* Redundant site infrastructure capacity components guaranteeing 99.741% availability
3	* Fulfils all Tier 1 & Tier 2 requirements
	* Multiple independent distribution paths serving the IT equipments
	* All IT equipments must be dual-powered and fully compatible with the topology of a site's architecture
	* Concurrently maintainable site infrastructure guaranteeing 99.982% availability
4	* Fulfils all Tier 1, Tier 2 and Tier 3 requirements
	* All cooling equipment is independently dual-powered, including chillers and Heating, Ventilating and Air Conditioning (HVAC) systems
	* Fault tolerant site infrastructure with electrical power storage and distribution facilities guaranteeing 99.995% availability

### Service based Classification

**Colocation DC :** In this the DC service providers simply offer the space required for mounting the server on rental basis. The customer(s) will keep their application / database servers in the rented space & they will carry over the sever maintenance from remote logins. The DC will charge the customer for the Space, Electric power, cooling system usage. In this the DC offers the Security & the environment



**Hosted DC:** The Hosted Data centers all the facilities of colocated DC & it will also have its own storage servers in the protected environment & the customers will just take data storage space in the server to store their files and information. Most of the Internet file storage servers are falling in this category. The customer will pay the fee for this storage space. But the customer cannot process any active applications; they can simply store the content.

**Managed & Hosted DC:** This kind of DCs allows their customer to host actively running/ processing applications in the DCs app-servers. For which Customers has to pay separate charges

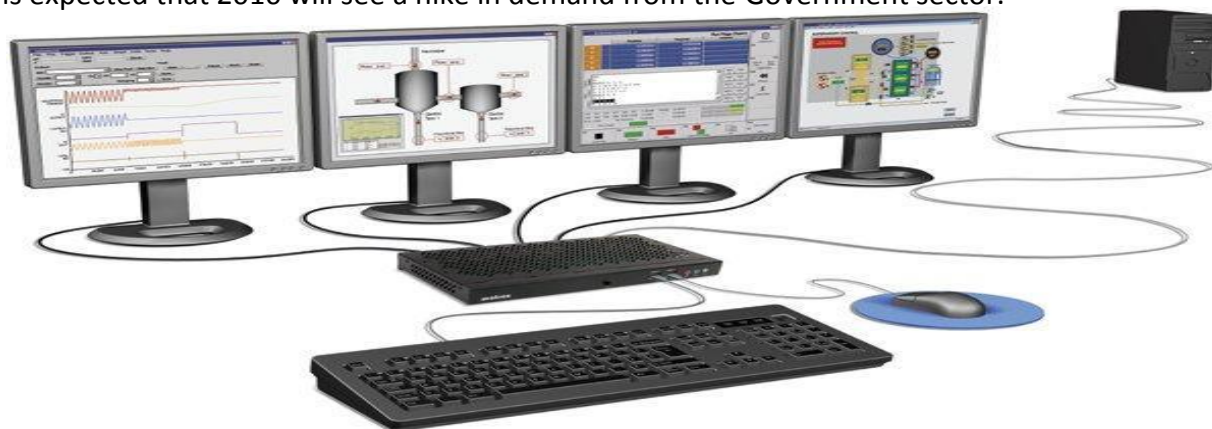
Up to this point we had seen the overview of Data center & now we can see what BSNL can do with these DCs.

### Potential Data Center Customers

1. All Banking, Financial, Service Industries (i.e. BFSI Segment Viz Banks, Stock Broking Cos, NFBCs, Credit Card Cos, Insurance Cos etc., )
2. Computerization of (State & Central) Govt. Depts (Viz eGovernance, eStamping, eRegistration etc)
3. UIDAI Kind of mult billion Govt project requires big DCs with PAN india Connectivity
4. Media segment (News paper, emedia services) requires hosted Dcs
5. Outsourcing DC projects from foreign companies
6. Academic institutions requires DC for eLibrary projects
7. mCommerce & eCommerce, B2B & C2C online portals
8. RBI mandates that even small co operative units also should maintain centralized data base

In the year 2009, the total India data center services market was totaled at Rs 6,300 crores. It will be Rs 10000 cores by the end of 2011. The estimated analysis shows it will grow annually 20% for next four years.

Captive data centers will hike at a CAGR of 19.9 percent during 2009-11, with manufacturing and banking, financial services and insurance (BFSI) showing high deployment. It is expected that 2010 will see a hike in demand from the Government sector.



## Business opportunities for BSNL

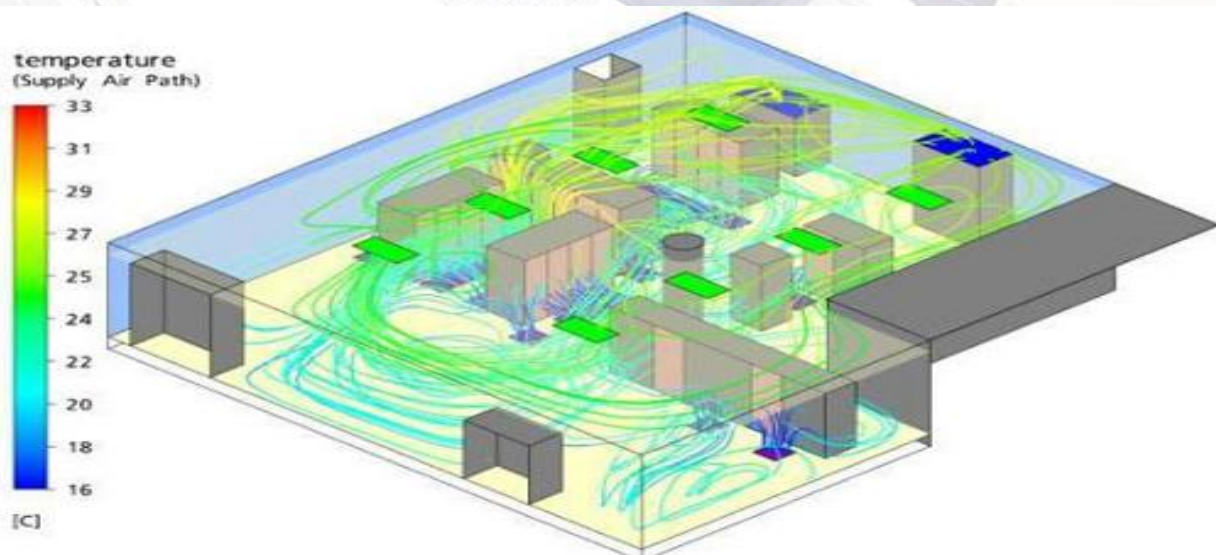
BSNL has got vast experience in the Secured & protected environment creation & maintenance. All of the BSNL exchanges (at least new tech) should maintain false flooring, false ceiling, Regulated Air condition, humidity control & stand by power supplies etc. All the L1 TAXs & SSTPs locations are almost like Tier 4 level DCs, except dual power ACs. Also BSNL staff has got experience in maintaining real time Data base servers such as HLR, VLR, LPDB (Line Ported Data Base @ SSTP locations for MNP; we can also allow other operators to access the LPDBs on charge basis along with IUC, this will be projected in a separate paper). Creating Data Center space is like a creating space for new exchange element, so it is simple for BSNL.

Pan India presence & all short of access services is another advantage, so BSNL can provide connectivity just like that.

### Advantages

1. Readily available passive resources (VIZ Floor Spaces)
2. Already installed active resourses such as Power supplies, ACs, etc.,.
3. Underutilized staff
4. Pan India Presence of Access Networks, so we can provide end to end connectivity to the Banking kind of customers
5. State of art Back haul (Switched Ethernet, DXCs, Pt to Pt Dark fiber connectivity, Micro wave links etc) will help interlink the cutomers processing centers

Considering all this advantages & potential business market BSNL can start DC by it own. At least it can start collocated Dcs intially and further it can be expanded.



## SWOT Analysis for BSNL Data Center Start up

### Strengths :

- Having Vast Expertise in Protected environment creation
- Pan India Presence of Access as well as Back haul network so no payment for Back haul bandwidth & Access connections
- Different types of Connectivity (MLLN, VPN GSM/CDMA, MNS, MPLS-VPN etc), so BSNL can cater any kind of customer requirement. Also it is easy for BSNL to provide redundant back up connection
- Can enter for 99.9 SLA MOUs with customers
- Highly qualified Staff
- Large no. of under utilized staff in state and district Hqs, where this kind of DC can be established and the staff can be re organized
- Can able to offer call center facilities with these underutilized staff
- Last but not least the already existing Bangalore MPLS/MLLN NOC , Pune Broadband NOC, HYD, Chandigargh, Kolkotta, Pune CDR Data Centers is having the DC facilities (viz Raised floor, False ceiling, Precision ACs, N+1 Transformer supplies, BMS etc)
- In this kind of already (Pune, HYD, BGL, Chandigargh) established DC's it is not a big deal to identify a 5"X5" space for commercial lease out purpose. **Only thing our management should have space in it's heart.**
- Due to various migrations (viz Seimens to Nortel; Nortel to Ericsson/Huewai; Trichur to Dotsoft; (forthcoming) Dotsoft to CDR billing) lot of high end(HP, IBM, Sun etc) servers with best configuration is lying idle as non performing asserts, this can be readily converted into hosting servers

### Weaknesses:

**Weakness** → How it can be converted in to Strengths

- Low awareness of DC business market → This can be converted into strength by providing proper training to circle Enterprise Business units (for which the expertise of TN Circle & Chennai TD Circle Enterprise units can be used)



- Non availability of sufficient staff for Hosted kind data center operations → this can be converted into strength by making tie-up with already existing IT Infrastructure management service providers such as HP, Mindtree, Infosys, etc (please do not go with TCS (is linked with TCL& TTSL), HCL( The existing IUC & ERP is not upto mark) IBM (is paternered with Barathi)etc.,.)
- The huge non computer savvy staff sitting at circle & district HQ → can be trained for simple computer operations and can be accommodated in customer N/w monitoring centers & service delivery centers
- Non committal staff → can be converted in to committed staff by allocating target based working model in the above centers
- There is no policy in BSNL for DC business → So it should be framed with in 2 months

### Opportunities:

- Since BSNL is having L1 tax buildings which are suitable for DC space in each and every state it can be easily attract the regional based customers such as Regional Banks & Media, Govt Projects at lower costs.
- This regional set up will help customers to reduce their Bandwidth Distance cost
- Being a Govt PSU it can easily act as a Custodian for Govt Information
- The resources are readily available to roll out with in short period
- Because of the pan India presence network we can offer DC as well as Connectivity to the customer branches as an integrated manner with ultra low cost.
- The readily available servers can be provided to small business units at lower costs
- Needless to say the western software industries are trying to push their distributed computing software in the name of cloud computing for which DC is essential

## Threats :

Potential Threats → The opportunities in the threats

- The following are the established players
  - Sify – First Internet DC in India → but low profile Network
  - TCL (VSNL) -Major Domestic & International DC service provider, good support from TCS & High profile Backbone & international N/w → No wired access N/W
  - Reliance(ADAG) Domestic DCs → low wired access networking
  - Net4india, Netmagic are MNC outsourcing vendors & silent rulers; CtrlS is a major vendor for domestic market → No back haul network, so depending on third party network
- BSNL has not yet rolled out the DC business.

## Business Examples

There is lot of examples, but to make short only TN bound BANKs have been considered.

Bank Name	Connectivity	Data Center	Remark
KVB	from BSNL annual revenue 3Cr	Sify cost Rs 5Cr	Potentially KVB may migrate to Sify's business partners for bundled offer of connectivity with DC
LVB	from BSNL annual revenue 2.8Cr	TCL (VSNL) Rs 5Cr	TCL is also a connectivity provider likely hood of LVB's migration is very high for discounted offer
TMB	from BSNL annual revenue 2.2 Cr	3i Infotech	Similar situation like above
ING Vysya	From TCL(VSNL). TCL has taken lines from BSNL & sub leased it	Not known	Potential customer to BSNL
TN Co -op (Rural)	From BSNL (only Trail run started for two places) Rs 1.5L for 3 months. If BSNL gain full project annual revenue is 8Cr/ annum	Rs 2Lakh for 3 months. (Trail project) If BSNL gain full project annual revenue is 10Cr/ anum	TN Govt Co-Op Registrar has approached BSNL for set of service. But BSNL yet frame the policy
IOB	From BSNL & TULIP	CtrlS (is having tie up with TCL)	IOB may also migrate for low cost offers

### Appeal to management

The business opportunities in DC segment are vast and BSNL can immediately conceive DCs with small alterations of existing resources without any capital outlay. So I humbly request the management to explore the business in this area & en-cash it.

**The true leader must possess the three characters: Vigilance, valiance and virtuous learning - Couplet 383 by liyan Thiruvalluvan**

### Appeal to union, association leader (s) & Employees

Forum of employees is not only for employee benefits, it also having moral obligation towards organization benefits. Since our organization has become corporate, the agenda of forum also should include Business Development points.

Please do not simply cry for 78.2% IDA. If the BSNL want to provide 78.2% IDA it requires increased revenue & to increase the revenue it should increase the business. So a request to my seniors kindly appeal & apprise the management accordingly.

**He who understands his duty to society (I.e BSNL) truly lives. All others shall be counted among the dead. - Couplet 214 by liyan Thiruvalluvan**

BCG might have forgot explore this vertical but our management should not miss the opportunity.

For others the breakeven period will be in terms of years, but for BSNL it will be only few months.

Thanks for spending your precious time in this article. All the views expressed here are my personal opinion.

All the credits go to my well wishers & whatever may be the demerits, it comes to me.

## Acknowledgments

My heartfelt & sincere thanks to Sh Adhinarayanan AO & Sh Arun Kumar, JTO, Pune DC, ITPC; Smt Lakshmi SDE IP TAX, Chennai; Sh Satish babu, JTO EB, TN Circle office for educating me about the Data Center environment

My sincere thanks to Sh Ramakrishna, DGM IT; Sh KBR Murthy, DE IT, Sh K.Rajagopal, CAO IT, IOBAS DC, Chennai for encouragement. My heartfelt thanks to Sh. K.Gopalakrishana, Sh. Srikanth Patil and D.D. Patil SDEs of ITPC Pune for providing the platform.

I owe the responsibility of any errors in this article and I accept the valuable corrections and suggestions. All credits goes to my BSNL and my well wishers.

Last but not least if I forgot to thank my parents and the almighty BSNL I will never succeed in my life.

About me

I am working as a JTO in IOBAS Data Center Chennai, which comes under ITPC. I can be reached through nag.muralidharan@gmail.com or muralidharan@bsnl.co.in

I had completed my BE in SMIT, Madras University, Chennai; ME form CEG Campus, Anna University, Chennai & PGDIM from IGNOU. But I can proudly say I am a student of Govt. Hr. Sec. School, Rayakottah - 635116.