

Hardware Software

Proposed "Annexure to PO"

Resources Required Manpower & Hardware and Software and other Notes

Ver Dec 2020

Part 1 Human Resources Required

1. Human Resources are most important

- a. Usually a standard implementation needs, an active cooperation of all Managers and staff. This is what makes a Successful ERP implementation. We have seen that success is almost Guaranteed, and results come very fast, if at least **CEO / One Director** in the company is actively involved in the ERP process along with at least 3 more top Managers in the Company.

2. Existing to continue

- a. Stores people – do their own entry
- b. Purchase people – do their own entry (PO etc)
- c. Dispatch people – do their own entry (Invoice)
- d. Marketing people – do their own entry (Sales Orders + Monitoring)
- e. Accounts people – do their own entry
- f. The Plant head and Directors must use their laptops and phones for approvals, and monitoring the MIS Reports. <MUST be done>

3. Production and Quality

- a. Production and Quality people – Either you set up a computer room in the Plant. Or give a Laptop with wifi to a dedicated resource who will go from desk to desk every 2 hours. And enter the data from their manual registers into the ERP.
- b. Fork Lift Operator : He is given an Android based Phone. This will make the task of Reel issue and Reel return very easy. (Applicable for Corrugation and Flexible Packaging Industry)
- c. Store Keeper may also be given an Android Phone. He will use this for the physical stock taking of the Reels. He can now, do this even daily, by just scanning the reels.

4. ERP Manager

- a. He must be of a Senior Level with appropriate Rights in the company
- b. He must have direct access to the Customer Top Management
- c. He is also a part of the Steering committee
- d. Must devote 50% or more of his daily time on ERP for the initial 3 months.
- e. He must be well-versed with your operational responsibilities / work
- f. Must be able to take decisions, at least in some areas
- g. Must be able to push others in Change management, at least to some extent

Hardware Software

5. ERP Co-ordinator

- a. Junior Level IT Person
- b. Full time only ERP / or majority time (over 50%) , all 12 months a year.
- c. He is also to be the Super User / Champion User / All Rounder

6. Three All Rounders

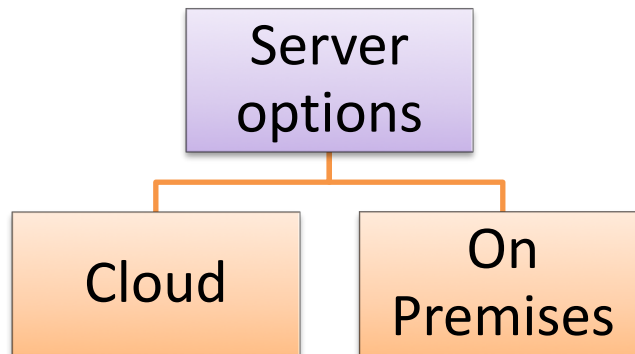
- a. Three All Rounders , who will be a part of almost all trainings
- b. And become the Spearhead of the faster ERP implementation
- c. Time required : 50% of working time for next 3 months

The above requirements are surely required for a Successful ERP implementation.

Part 2 Computer Server

7. Hardware Requirements :

- a. All hardware to be directly sourced by the customer from third party vendors. Finsys has no interest in any particular vendor. However, Finsys can guide you for the best optimal fit.
- b. Short Summary as under :



Hardware Software



8. Option of Cloud server by Amazon web Services

- a. As a First option, consider hosting on the Amazon / Azure / equivalent.
- b. It will be your private cloud.
- c. Dedicated for you only
- d. Paid directly by you via your Credit card by monthly standing instruction to Amazon.

9. Cloud Hosting leads to a lot of benefits.

- a. No Hardware cost
- b. No Anti virus for server
- c. No Windows licence cost for server
- d. No online UPS for server
- e. No maintenance cost of Server and UPS
- f. No cost of electricity for server area
- g. No cost of special air conditioning for server area
- h. No need of special team for server
- i. Very high speed internet access for upload/download at server end
- j. Always on, 24 hours on
- k. Allows Work from home

10. Cloud Server for Oracle DATABASE from Amazon Windows only

S no	Users	AWS Pack Recommended (Windows)
1	Upto 14	USD 40 pm Light Sail
2	15 to 30	USD 80 pm Light Sail
3	30 to 100	USD 200 pm EC-2

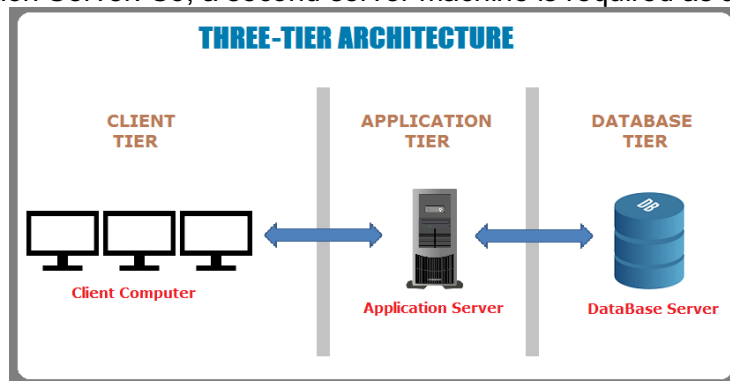
- a. Above Specs to be chose as per your user base
- b. Recommended base usually is as follows :

Hardware Software

SI#	Details	Specification
1.	Platform	AWS / Azure
2.	Memory	8 GB
3.	Processor	2 Core vCPU
4.	Storage	160 GB SSD
5.	Data Transfer	2.5 TB
6.	OS	Windows Server 2019 (64 Bit)
7.	Public IP address	1

11. Cloud Server for Web Applications : from Amazon (Windows only

- a. (Application Server for Browser Applications)
- b. Quantity : One :
- c. Some of the Browser based Applications shall be hosted on a Windows based Application Server. So, a second server machine is required as an application server.



- d. These Specs to be chose as per your user base

S no	Users	AWS Pack Recommended (Windows)
1	Upto 14	USD 40 pm Light Sail
2	15 to 30	USD 80 pm Light Sail
3	30 to 100	USD 200 pm EC-2

- e. Configuration of Base pack for MSME is
 - i. 4 GB Memory
 - ii. 2 Core Processor
 - iii. 80 GB SSD Hard Disk
 - iv. 4 TB Transfer

Hardware Software

- v. 24 x 7 availability
- vi. On Windows
- f. Whenever, you want, if required, Options to upgrade are readily available

12. Can combine two servers into One ?

- a. Yes possible, if you take a higher configuration

13. AWS top Regions

- a. Mumbai AWS for Indian Subcontinent
- b. <https://aws.amazon.com/blogs/aws/now-open-aws-asia-pacific-mumbai-region/>
- c. https://aws.amazon.com/local/middle_east/bahrain/ for GCC countries
- d. <https://aws.amazon.com/local/africa/> for Clients in Africa

14. Azure Cloud by Microsoft

- a. India : Azure has centres at Mumbai, Chennai, Pune
 - i. <https://azure.microsoft.com/en-in/blog/tag/india-datacenter/>
- b. Gulf / GCC Countries
 - i. Azure Bahrain is good for GCC Countries
 - ii. <https://www.datacenterknowledge.com/cloud/cloud-desert-aws-launches-bahrain-azure-builds-phoenix>

On Premise Server



15. When to take “on premise” server

- a. If your location is very far from nearest city and
- b. Or your internet is quite “unreliable”.
- c. Or if you already have a GREAT server with you
- d. Or you feel that your internal infrastructure is better
- e. Or you have only one single plant

16. Servers :

- a. Small companies
 - i. Single server
- b. Medium and large companies
 - i. Upto 3 to 4 servers may be done

Hardware Software

17. First server = Database server : On Premise

- a. Used for Oracle Database only
- b. Quantity : One
- c. Good server is essential for good performance.
- d. In case of choosing on premises server, you may choose to purchase your own server (gives higher speed).
- e. Usual price is between Rs 0.80 lakhs to Rs 2.00 lakhs for a company with around 15-100 users.

18. Optional server for N Computing / Thin Clients

- a. These are not compulsory, but they help in better IT management.
- b. Application Server for Thin Client (N Computing).
 - i. Thin Client machines can be taken as an alternate for the Nodes. They have lower cost and lower power consumption and some other merits.
 - ii. Only N- Computing is currently recommended for the Thin Client usage for Finsys ERP. Other similar products have not given equivalent quality of performance as per our experience.
 - iii. N Computing can be good success only if you take a Application server for N Computing.
 1. Upto 10 Nodes of N computing : a I5 computer.
 2. 11 to 40 Nodes : a Basic application server costing Rs 60,000.
 3. 41 to 100 Nodes : an application server costing Rs 1 Lakh.
- c. Quantity will be as per your users base and decision of desktop vs these servers

19. Optional server for Training and Backup and Disaster Recovery

- a. This are not compulsory, but they help in better IT management too.
- b. This can be a low-end server.
- c. On stand-by mode
- d. Ready to use in case of any malfunctioning in the main server.
- e. Configuration, minimum I-5, maximum same as main servers

20. Rack vs Tower Server

- a. If you take only 1 server, then go for Tower server
- b. If you are a larger company and can invest on multiple servers, then go for RACK
- c. It saves space, cabling, electricity and looks more organized.

21. Server Models – Specs

- a. Brands : Lenovo, HP and Dell
- b. Price range : any server costing Rs 1 lakh approx. to Rs 1.50 lakhs approx. are sufficient for a Company with 0 to 100 users
- c. Please connect to your hardware provider for actual quotes.

Hardware Software

Part 3 Hardware for ERP at Warehouse with Barcoding

AKITO KOWA PACKAGING LIMITED	
Doc No.000706	Dt.14/01/2019
Supplier	ROYAL PAPER PVT LIMITED
Item	SK 18 BF 174.5 X 140 GSM PASWARA
Size	174.500
GSM	140.000
R/No.	106941
S.R/No.	148421
Weight	1044.00 Kgs

NEW



22. Normal A4 printer

- You can print the bar codes tags directly on A4 paper using the ordinary office Laser printers.
- Reel normal A4 paper printing is good for kraft paper or big rolls
- However for the polyester rolls, stickers are preferred.



HP LaserJet Pro
1020 Plus Mono...

23. QR Bar Code Printing :

- Small Bar Codes can be printed on dedicated bar code printer which can print on sticker stationery.
- Finsys Standard Printer Name : TSC TTP-244-Pro. or Zebra ZT230

24. TSC TTP-244-Pro. Specs of this printer ?

- 200 MHz 32-bit RISC processor with 8 MB SDRAM, 4 MB Flash memory. TSPL-EZ firmware emulates Eltron® and Zebra® languages out of the box
- 300 meter (984') ribbon supply on a 25.4 mm (1") core (coated side out)
- 110 mm (4.3") OD internal media supply, optional external roll mount supports
- 5 inches per second print speed

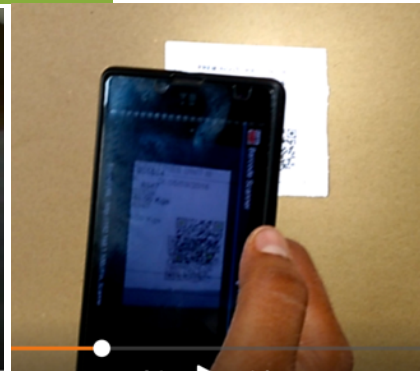
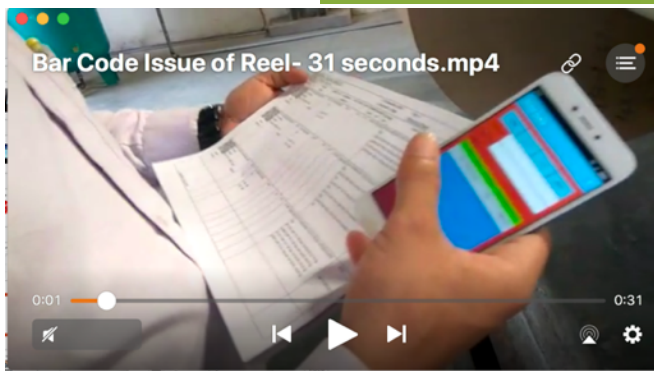


Hardware Software

- e. USB 2.0 & RS-232 interfaces standard
- f. Standard 2 year limited warranty
- g. Source : https://www.tscprinters.com/EN/Product/Series/Desktop_Barcode_Printers/TTP-244_Pro
- h. Purchase Source : www.amazon.in, and search for this device

25. QR Barcode Label Stationery / Consumables

- a. Called : Self Adhesive Labels
- b. Color : White
- c. Quantity : 500 Label / roll
- d. **Size** : We usually prefer following two Stationery Sizes :
- e. Wider and More readily available : 100 mm x 130 mm
- f. Narrower for polyester packaging : 70mm x 60mm.
- g. Note : Do not purchase Thermal Printer or Labels
- h. Required quantity – One Box to start with.



Hardware Software

<https://youtu.be/EW2piLUED1M>

26. QR Bar Code Reading via Android Phones

- We have a facility of Android phone application for these.
 - In that case, no Bar Code Reader is required.
 - Cost : Zero, if you use the existing Android phones
 - Merit : Android Phones are zero cost solutions for QR Bar code reading
 - Demerit : Slightly slower than the dedicated barcode readers (below)
 - Finsys Recommends : a combination of both android phone and scanners, some people with heavy load will do via Scanner and those with less use can do via phone.
-



27. QR Bar Code Reading via Dedicated Barcode Gun shaped Readers

- They are special devices with infra red beams. And read data faster.
- Cost : Rs 5000/pc approx for the Reader without Screen
- https://www.amazon.in/s?k=android+qr+barcode+scanner&ref=nb_sb_noss
- Required quantity – Minimum One. Rest your Choice.
- Merit : Dedicated Bar Code Readers are much faster,
- Demerit : They don't have a screen. !!
- QR Bar code Readers with screen are usually quite costly as compared to basic Scanners. (Approx Rs 30000 to Rs 90000 per pc)
- So, the Usual Fast and economic solution is to attach them to an android phone or Tab using a USB 2.0 to Micro USB convertor
- Source : https://www.amazon.in/s?k=USB+to+micro+USB&ref=nb_sb_noss



Hardware Software



Example <https://youtu.be/EW2piLUED1M>
for a quick demo

Part 4 Other Points

28. Other points

- a. Computer Nodes: The Computer nodes can be 15 machines and laptops with 2 GB RAM and 500 GB or higher HDD.(usually any fresh PC purchased in last 5 years).
- b. LAN Networking : Cabled LAN is preferred with structured cabling. 10x100mbps. Wireless is not recommended, however some users like Directors etc. may work on the good quality wireless LAN.
- c. Online UPS: Recommended for the server room and admin block.
- d. WAN Networking : Connection between various sites, can be done via the VPN, Leased Line, Internet web access / Radio Frequency Tower
- e. Static IP Address: Please take for the server, in case you need internet based access.
- f. Firewall: Windows software based firewall is sufficient for time being. In future, the company may opt for CISCO or Fortigate / Sonicwall for higher safety.
- g. SMS Facility: The SMS facility is based on online Bulk-SMS service providers. The customer shall take an account from any provider. Finsys shall provide this facility free of cost for first three months. (Applicable for India only)
- h. Auto Email : The Auto Email facility shall be based on the internal mail server. Customer shall provide the same.

Hardware Software

- i. Hardware Maintenance: This shall remain an internal matter of Customer. And our ALF / support does not include any computer hardware support or the support of any software apart from the ERP supplied by us. FINSYS shall advise as required.

Part 5 Computer Software Required : Oracle

29. Oracle Database Licence (Free Cost Period):

- a. The “customer” company shall arrange for the **Oracle Database** at its own cost.
- b. However, for first one year, we recommend, you to use, Oracle 11gR2 Express Edition Software Licence (“Free” Evaluation version). This works upto maximum of 11 GB database, 1 GB RAM and 1 thread of processor speed.
- c. This works fine for initial months/years, or number of users is below 20.
- d. The Customer abides to take the server of the specs as per Oracle policy – higher server specs need higher number of Oracle licences.



30. Paid Oracle Licence

- a. As and when you purchase Oracle licences, we can help you purchase the Oracle database licences
- b. Oracle software Investment Guide, policies, prices are available on Oracle website www.oracle.com. And Finsys as an Oracle Partner, is bound by it. You may see the Investment Guide at
 - i. www.oracle.com/us/corporate/pricing/technology-price-list-070617.pdf
 - ii. <http://www.oracle.com/us/corporate/pricing/software-investment-guide/index.html>

31. Oracle versions : 18C / 19C / 20c

- a. Oracle 19c is the latest commercial version of Oracle Database by Oracle
- b. This works fine with Finsys ERP
- c. New Oracle Licenced users shall be rolled out on Oracle 19c , usually
- d. Oracle 20C is the future release, right now, only in beta version by Oracle.



Hardware Software

32. Invitation to Upgrade to “Paid” Oracle Database

- a. Initially the customer is invited to use the Oracle Express Edition. It is officially free of cost, subject to come conditions.
- b. <https://www.oracle.com/in/database/technologies/appdev/xe.html>
- c. However, later, after some time, Since the Evaluation version has its limitations and conditions, therefore we recommend after the trial period, Customer must upgrade to Regular Paid version of Oracle Database version
- d. Benefits of Upgrading to Paid Oracle (via Finsys Gold edition) are as under

- e. Freedom to use full capacity of your CPU

- i. The Express Edition is capped to work only with one single thread in your processor. So, every instruction goes via a sequential Queue.
- ii. However, with the formal paid edition, you can use all 16 threads of your processor. Thus, Speed increases substantially on use of Oracle paid licences vs XE



- f. Freedom to use full RAM

- i. The Express Edition is capped to work only with one GB out of your RAM available.
- ii. So, even if you have 16 GB RAM... in case of Express Edition, your Oracle Database will be limited to use only 1 GB out of that. So, obviously the server will not be used at full capacity, hence speed will be slow.
- iii. Here, with the formal paid edition, you can use full RAM installed
- iv. Thus, Speed increases substantially on use of Oracle paid licences vs Express Edition.

- g. Freedom to use the full Hard Disk Space

- i. The Express Edition is capped to work only with 11GB out of your Hard Disk available.
- ii. With the formal paid edition, you can use full Hard Disk installed and made available for oracle.



- h. Benefit of In-Memory Computing

- i. The licenced Oracle from version 12c onwards has, introduced the “Very fast” RAM based in-memory computing. This makes the computing even faster.

- i. Unlimited Oracle users recommended,

- i. The Break Even point of Oracle is about 25 users. After that number the unlimited number of users is preferable and cheaper due to fix cost.
- ii. We recommend you to take Unlimited user processor licence
- iii. This Users count is subject to only Finsys users you purchased from Finsys.

Hardware Software

- j. Unlimited life.
 - i. This is a “perpetual licence”, so, no yearly cost. Conditions Apply.
- k. Unlimited processor Cores
 - i. Single server socket Processor’s capacity is measured in number of cores
 - ii. So, even if your server Socket has 4 or 8 or 16 or 32 cores, your licence cost is same for SE2.
 - iii. This is a big saving from the Oracle SE1 policy, where it used to increase proportionately. 16 cores meant 8 licences to be purchased
- l. Some other excellent facilities which are available in the Oracle Paid editions are absent in the Evaluation version (XE version).



- m. FIL can help you reduce the Oracle cost, if you upgrade to Finsys GOLD at that time. Please feel free to contact FIL for the latest Quote for the Oracle Licences, or Finsys Gold Upgrade. We are Oracle Gold Partners, and have seen the benefits of upgrading to Oracle paid version, at many clients.

Part 6
Computer Software Required : Operating System

33. Purchase of Microsoft Software Licences:

- a. The “customer” company shall arrange for the Operating System Software at its own cost :-
- b. Operating system **for Server**. :Both Windows and Linux are OK. Any version.
- c. Operating system **for Nodes** : Only Windows is supported for nodes. (all versions)
- d. Microsoft Windows CAL (Client Access Licences), have to be taken in case you take Windows on the Server. However, this requirement is NIL, in case you choose Linux OS for your Server.
- e. Note : Windows licences are fully required for the N-computing users also.
- f. All Logos and Tradenames are copyrights of their respective owners.



For Other details and Financial Budget, do contact Finsys