IIT Bombay: SAP-ERP Project

Migration and Operation & Maintenance of SAP platform services

1. Introduction

IIT Bombay has been using the SAP-ERP system for its operations. It has recently procured new hardware for the SAP-ERP application system. The virtual machines running the SAP-ERP software and its related data needs to be migrated from the existing hardware to the newly purchased hardware, along with the support and maintenance for the platform services for a period of three years.

2. Purpose of the RFP

To solicit proposals and financial bids from qualified vendors for the migration of SAP-ERP setup including virtual machines and data storage onto new hardware.

3. Background

Overview of the current SAP-ERP setup

	DC Count and OS type	DR Count and OS type
Physical Server	**14** (7-VMWare ESXI, 2-Suse Hypervisor, 3-SuseStandalone, 2-Commvault backup)	**3** (3-VMWare ESXI)
Total OS count	**23** (Physical & VMs including 1- WIndows OS vm)	**5** (Physical & VMs)
vSphere Console	**1** (vCenter Mgmt console, vCenter Root)	**1** (vCenter Mgmt console, vCenter Root)
Storage Server	**1** (HPE 3PAR Storage – Commvault)	**1** (HPE 3PAR Storage – Commvault)
Tape-Library	**1** (HP MSL 2024 Tape Library)	-
Load Balancer	**1** (Barracuda)	**1** (Barracuda)
SAN Switches	**2**	**2**
Network Switches	**2**	**2**

Specific Challenges for the Vendor:

The New Hardware has following components:

	DC	**DR**
Physical Server	3	3
Storage	1	1
Backup Server	1	-
Tape Library	1	-
SAN Switches	2	-
Network Switches	2	-

As the number of New physical servers are less than the existing Old physical server hardware, all Physical OS Installation has to be migrated as VMs under new VMware on new hardware. This may involve appropriate resizing of resources, and version upgrades.

4. Scope of Work Migration of SAP-ERP Applications, Data & File storage

A. Detailed description of the services required, including:

1. Existing OS & Softwares under existing hardware shall have to be migrated to the new server hardware.
   - SuSE Linux
   - VMware
   - Storage
   - Database (Sybase)
2. Migration of SAP-ERP systems from existing virtualized infrastructure to new virtualized infrastructure (VMWare ESXI)
3. All the licenses on the existing production setup under active subscription contract will have to be migrated to the new server hardware along with Existing-ERP workloads.
4. Some of the above platform services with expired licenses have to be updated with new licenses. IIT Bombay will procure the new licenses when needed.
5. Transfer of data (without any loss) & file storage from current storage systems to new storage systems while ensuring data integrity and security
6. Migration of Licenses of databases shall have to be carried to the new server hardware by the vendor.

7. Testing and validation of migrated SAP-ERP systems to ensure functionality and performance. IIT Bombay and our SAP-ERP support partner will carry out the application level testing.
8. Documentation of the migration process, including step-by-step procedures and configuration settings.
9. Training for internal IT staff on managing the new infrastructure.
10. Timeline for completion of the migration project - should not be more than 2 weeks, unless justifiable by valid reasons beyond the control of the vendor.
11. Any production downtime required during the migration phase, must be limited to weekends for a period not more than 8 hours at a stretch

B. Management of existing ERP Hardware during migration phase (both DC & DR)

It will be the responsibility of the selected vendor (till the migration is carried out successfully) for the complete care and management of the existing ERP hardware. The details of the existing ERP hardware are as below.

Existing DC Hardware details				
S.No.	**Device Type**	**Device Model**	**Serial Number**	**Hostname**
1	Server	ProLiant DL560 Gen8	SGH516WWHW	Erpnode1
2	Server	ProLiant DL560 Gen8	SGH516WWHV	Portalnode1
3	Server	ProLiant DL560 Gen8	SGH516WWHT	Portalnode2
4	Server	ProLiant DL560 Gen8	SGH516WWHY	Bcpnode1
5	Server	ProLiant DL560 Gen8	SGH516WWJ0	Bcpnode2
6	Server	ProLiant DL360p Gen8	SGH516WWH5	Development
7	Server	ProLiant DL360p Gen8	SGH516WWHP	Quality
8	Server	ProLiant DL360p Gen8	SGH516WWHS	Training

9	Server	ProLiant DL360p Gen8	SGH516WWHM	Solman
10	Server	ProLiant DL360p Gen8	SGH516WWHR	DMS
11	Server	ProLiant DL360p Gen8	SGH516WWH6	Bussines Object
12	Server	ProLiant DL360p Gen8	SGH516WWH7	BKP-Server
13	Server	ProLiant DL360p Gen8	SGH516WWHN	Backup Server-Commvault
14	Tape Library	HPE MSL 2024	MXA510Z0FW	Tape library
15	Storage	HPE 3PAR StoreServ 7200	4C15157006	HPE 3PAR StoreServ
16	Storage	HPE Service Processor	SGH5270JF7	Service Processor
17	SAN switch	HPE 8/24 24-port Enabled SAN Switch	CZC507UAN6	HPE SAN Switch
18	SAN switch	HPE 8/24 24-port Enabled SAN Switch	CZC507UAN0	HPE SAN Switch

Existing DR Hardware details				
S.No.	**Device Type**	**Device Model**	**Serial Number**	**Hostname**
1	Server	ProLiant DL560 Gen8	SGH601WFT7	EPDR
2	Server	ProLiant DL560 Gen8	SGH601WFTB	EPDR
3	Server	ProLiant DL560 Gen8	SGH601WFTJ	BPCDR
4	Storage	HPE 3PAR StoreServ 7200	7CE547P1E3	HPE 3PAR StoreServ

5	SAN switch	HPE 8/24 24-port Enabled SAN Switch	CZC543TNGL	HPE SAN Switch
6	SAN switch	HPE 8/24 24-port Enabled SAN Switch	CZC543TNGP	HPE SAN Switch

5. Scope of work for Annual Maintenance Services (Operations and Maintenance Support) for 3 years:

The annual maintenance service will commence from the day of commencement of the migration activity in IIT Bombay premises.

Remote access shall be provided through VPN for both DC and DR infrastructure maintenance support.

A. Hardware and Software Maintenance and Management

1. SYSTEM MAINTENANCE AND MANAGEMENT:
   a. Perform system maintenance and management tasks including but not limited to setting up servers, configuring and apportioning storage space, account management, performing periodic backup of data and automating reporting tasks, and notifying necessary hardware updates to be performed by new ERP hardware supplier.
   b. Troubleshooting issues in the SAP-ERP platform service related to the hardware infrastructure to determine the areas where fixes are required and notifying possible solutions for its resolution to be performed by the hardware supplier.
   c. Implement and maintain standard operating procedures for the maintenance of the whole SAP-ERP platform services based on the policies formulated in discussion with the Customer and based on the industry best practices / frameworks
   d. Create and maintain adequate documentation / checklists for the same.
   e. Management of the user names, roles and passwords of all the relevant subsystems, including, but not limited to servers, other devices, etc. and setup the directory server for the same and implement a password change mechanism in accordance with the security policy formulated in discussion with the Customer and based on the industry best practices / frameworks like ISO 27001, ISO 20000, etc.

2. SYSTEM ADMINISTRATION
   a. 24*7*365 Remote monitoring and management of the servers and SAP-ERP setup.
   b. Ensure proper configuration of server & SAP-ERP parameters
   c. Management of SAP-ERP platform services
        i. vSphere replication and SRM
        ii. Backup and Restoration
        iii. OS & Software related Upgrades and Updates
        iv. Configuration changes as needed
        v. Hypervisor and its cluster, etc.
   d. Single point of accountability for all hardware maintenance and notification in case of hardware failure and supporting SAP-ERP hardware infrastructure at the Data Centre in coordination with the Hardware supplier.
   e. Administration of Operating system including but not limited to management of users, processes, preventive maintenance and management of upgrades including updates, upgrades and patches to ensure that the system is properly updated
   f. Installation and reinstallation in the event of system crash / failures
   g. Facilitate application migration in coordination with application owners / departments
   h. Ensure regular monitoring and maintain a log of the monitoring of servers to ensure their availability to the Customer at all times
   i. Undertake regular analysis of events and logs generated in all the sub systems including but not limited to servers, operating systems, etc.
   j. Notifying and/or Undertake required actions   in accordance with the results of the log analysis
   k. Ensure that the system logs are backed up and truncated at regular intervals
   l. Adopt a defined process for change and configuration management in the areas including, but not limited to, changes in servers, operating system, applying patches, etc.
   m. Provide hardening of servers, in line with the defined security policies
   n. Provide integration and user support on all supported servers, data storage systems etc.
   o. Provide directory services such as local LDAP services and DNS services and user support on all supported servers, data storage systems etc.
   p. Troubleshoot problems with web services, application software, desktop/server relationship issues and overall aspects of a server environment like managing and monitoring server configuration, performance and activity of all servers
   q. Documents regarding configuration of all servers, IT Infrastructure etc and sharing with the customer/owner
   r. Managing the trouble tickets, diagnosis of the problems, reporting, managing escalation, and ensuring rectification of server related problems by hardware supplier as prescribed in Service Level Agreement

3. STORAGE ADMINISTRATION
   a. 24*7*365 Remote monitoring and management of the storage
   b. Management of the storage solution including, but not limited to, storage management policy, configuration and management of disk array, SAN fabric /switches, tape library, etc.
   c. Management of storage including but not limited to management of space, SAN/NAS volumes, RAID configuration, LUN, zone, security, business continuity volumes, performance, etc.
   d. Remotely manage the storage system and components and provide appropriate setup
   e. Identifies parameters including but not limited to key resources in the storage solution, interconnects between key resources in the storage solution, health of key resources, connectivity and access rights to storage volumes and the zones being enforced in the storage solution
   f. Create / delete, enable / disable zones in the storage solution
   g. Create / delete / modify storage volumes in the storage solution
   h. Create / delete, enable / disable connectivity and access rights to storage volumes in the storage solution
   i. Facilitate scalability of solution wherever required.
   j. Provision the existing and applicable infrastructure on a requirement-based scenario.

4. HELP DESK
   a. Helpdesk for a period of 3 years
   b. Serve as Single Point of Contact (SPOC) for all IT related incidents and service requests and also resolution of all the incidents. This helpdesk system is aligned with ITIL based incident and problem management systems.
   c. Human assisted 9:00 AM to 05:00 PM Help Desk facility for reporting issues / problems with the IT infrastructure. Online reporting must be available 24x7.
   d. The single point of contact for the resolution of all IT infrastructure related issues / problems.

e. Undertake the following activities:
    i. Attend issues / complaints related to SAP-ERP infrastructure at the Data Centre under the scope of work and issue an ID number against the issue / complaint.
    ii. Assign severity level to each issue / complaint so as to maintain categorization and differentiate the criticality of the incident via the priority levels, severity levels and impact levels.
    iii. Track each issue / complaint to resolution
    iv. Escalate the issues / complaints (related to ERP Hardware) to IIT Bombay.
    v. Provide feedback to the callers.
    vi. Analyze the issue / complaint statistics.
    vii. Provide for audit logs and reports to track changes and updations.
    viii. Creation of knowledge-base on frequently asked questions to aid the users of the SAP-ERP infrastructure.
    ix. Allow flexibility of logging incidents manually via web interface. The web interface shall also allow for viewing, updating and closing of incident tickets. (Requires installation of separate OS & software for web-based interface).
    x. An industry standard Enterprise class Helpdesk software has to be provided along with a requisite number of software licenses.
    xi. Provision for all necessary channels for reporting issues to the help desk. The incident reporting channels will be the following:
        1. Email
        2. Telephone (mobile phone alerts)
        3. Web Based
f. Call logging system in line with the severity levels as mentioned in the SLA.
g. The Help Desk System shall also have an inbuilt workflow for helpdesk automation
h. The Help Desk System shall at minimum allow for seamless integration with other service management solutions (change, asset, service level, service request, identity, knowledge etc.)

5. WORKING PROTOCOLS
a. Service support window during Operation & Maintenance support phase shall be Monday- Friday (9 AM – 6 PM) (Remotely). Priority 1 (Most critical) issues shall be supported 24x7.
b. The project team(s) will store and manage the project document on common web-based drive folders (preferably on Google-Drive of IITB-User-Account).
c. Operation & Maintenance Support services shall be provided via hybrid support model i.e. onsite at IITB & from vendor service delivery centres in India; fulfilling the service levels agreed.
d. SLA will be applicable during service support hours (as defined above) only.

6. PATCH MANAGEMENT
    a. Ensure security precautions in place in the deployment environment before patch is installed
    b. Ensure that there is available documentation as to what traffic is being allowed through to the internal
    c. Designated resource to evaluate patch stability shall have expertise in mission critical systems and be capable of verifying stability of systems after patch installation.
    d. Full back-up of all data and server configuration information is made before installing the patch
    e. Following Best practices for disaster recovery and recommend periodic testing of the restore process to ensure the integrity of the backed-up data
    f. Execute patch management efficiently for all kinds of environments like for operating systems like Windows, Databases like MS SQL
    g. Provide services related to Patch management as per Customer Security Policy.

6. Purpose of Mock Drills:

To ensure preparedness for potential disasters or security breaches and to validate the effectiveness of recovery and response plans.

Frequency:

1. Mock drills will be conducted bi-annually.
2. Mock drill will be conducted as per the following schedule
    a. Weekend of the second Saturday of December
    b. Weekend of the second Saturday of June
3. Any deviation from the above will require prior approval. The vendor must notify IIT Bombay 45 days in advance for planned mock-drills, with a plan of minute-by-minute activities scheduled.
4. Missing a mock drill will be considered a violation of SLA, and will attract a penalty of 10% of the annual AMS value.

7. Payment Terms

1. For Migration of SAP-ERP Applications, Data & File storage - Payment within 30 days from the date of completion of migration.
2. For Annual Maintenance Services (Operations and Maintenance Support) for 3 years - Payment will be on a quarterly basis in equal installments at the end of the quarter.

8. Technical specifications of new hardware procured

Specifications for the new virtualized infrastructure and data storage systems:

Physical Servers	HPE DL380 Gen10+ 8SFF NC CTO Server, 2.8GHz 24-core (multi-threaded) Processor, 512 GB RAM, 2x 600GB SAS, 2x10GB Base-T adapter, 4x1GB Base-T adapter, 32GB 2-port Fibre Channel Host Bus Adapter
Storage Server	HPE Alletra STG MP 2U, 256GB 8-core BCC, 12x7.68TB NVMe SSD, 2x32/64Gb 4p Fibre Channel HBA, 4x32Gb SFP28 SW Transreceiver
Backup Server	HPE DL380 Gen10+ 12LFF NC CTO Server, Intel Xeon-S 4314 16-core CPU, 2x32GB RAM, 4x4TB SATA 7.2K LFF LP HDD, 2x1TB SATA 7.2K LFF LP HDD
SAN Switches	HPE SN3600B 24/8 8p 32Gb SW SFP FC Switch
Network Switches	Extreme 7520-48XT Switch

Compatibility requirements for virtualization platforms, operating systems: Existing Physical OS installations and VMs to be migrated onto latest Version VMWare (as VMs).

9. Eligibility Criteria for Bidder

Criteria No.	Particulars	Suggested supporting document
1	The bidder should be a company registered in India under the Companies Act or a Limited Liability Partnership (LLP) with a registered office and operations in India for the last 12 years.	Certificate of Incorporation
2	The bidder should have an office and a development centre in India. The operational presence of an office in Mumbai or within the radius of 200 kms is mandatory.	Address proof for the registered company
3	The bidder should have Security Standards such as ISO 27001 & 20000 or, bidder should have been assessed for a Capability Maturity Model Integration (CMMi) Level 5, valid as on the due date of this tender.	Duly signed copy of ISO 27001 & 20000 certificate Or Certificate from the Software Engineering Institute (SEI).
4	The bidder should have a team of at least 8+ (eight or above) Technically qualified Engineers on its payroll (each with 5+ years of experience in virtualization, data migration & management of SAP-ERP production systems and disaster recovery infrastructure).	Provide statistics of current Engineers on-roll
5	The bidder should have at least two clients (each contract amounting to at least Rs 50 lakhs per year) to whom SAP Platform services Operations and Maintenance support has been given/ is being currently provided.	Copy of purchase orders (or equivalent testimonials) and satisfactory completion certificate issued by the clients.
6	The bidder should have had an Annual Turnover of 25 Lakhs (INR) or more through projects of SAP-ERP platform support or AMSs and should have had a profit in the previous Financial Year (2022-2023)	Copy of audited balance sheets for the FYs 2022-23 and 2023-24

7	The bidder must have prior experience of at least 12 (twelve) years of providing Operations & Maintenance Support in SAP-R3-ECC-6 infrastructure having modules like FICO, MM, HCM, SRM, PS, PM, PI, BASIS & EP. It would be desirable if the bidder has given AMS services to an Higher Education Sector or Government/ PSU sector, and furthermore, to IITs or IIMs.	Copies of purchase orders (or equivalent testimonials) issued by the client Document detailing the Maintenance scope, duration, client profile and references List of SAP modules undertaken for the maintenance Details of Total Person days support references
8	The bidder must provide existing / past (up to 5 years old) client references, including the name, email and telephone number of a client's contact person whom the IIT Bombay may call/ correspond with.	Contact details of at least three clients
9	The bidder should not have been blacklisted by any department or undertaking of the Government of India or the Government of Maharashtra, or, should not be a vendor/ service provider whose contract was terminated during the past 3 years (FY 2020-21 to 2022-23) by IIT Bombay	Appropriate Self-Declaration from Bidder to this effect on company letterhead, signed by the competent authority

10. Evaluation Criteria

A. Shortlisting eligible bidders

IIT Bombay will evaluate the bid documents to determine whether these meet the essential eligibility criteria, whether all the documents have been properly signed & stamped, whether all the documents as mentioned / or required to be submitted with technical bid are submitted and whether a bid is complete and generally is in order. The competent authority will shortlist a group of bidders who qualify all the eligibility criteria. The disqualifications will be informed to the concerned bidders. Subsequently, the shortlisted bidders will be eligible to participate in the financial bidding detailed below.

B. Financial Bid evaluation

Bidders should quote against each of the line items mentioned in the bid:

1. Migration of SAP platform services
2. Operations & Maintenance of platform services for 3 years

The bidder must select the appropriate tax code for applicable taxes. The winning bid will be the one with lowest total cost (including taxes), from among the eligible bidders.

In an event if IIT Bombay considers the lowest bid is beyond our estimates for the contract, IIT Bombay reserves the right to continue the bidding through a **Reverse Auction (RA)** method starting at an initial bid value at the lowest quoted bid.

11. General Terms and Conditions

1. Bidders are advised to read all the clauses mentioned in the tender carefully. Submitting your solution implies that you agree to act as per the terms and conditions mentioned in the tender.
2. The bidder shall bear all the costs during the preparation and submission of the proposal, site visit, proposed production site visit.
3. The bidders may visit IIT Bombay and make a presentation of the solution(s) proposed in their technical bids.
4. No new information will be accepted from the bidder after the submission of the bids. However, IIT Bombay may ask for clarifications. The bidder should respond to such a clarification request within the specified time.
5. The bidder has to supply a complete solution as per the services mentioned in the technical specification. On failing to do the same, IIT Bombay may invalidate the bid and disqualify the bidder.
6. Due to a stringent deadline for incurring the expenditure, IIT Bombay has the right to **cancel the PO or charge the penalty** if migration/installation, and acceptance testing are not completed within the stipulated timeline.
7. The purchase committee will make the final decision on the quality of the service after evaluating the proposals.
8. Bidders should submit only the necessary documentation related to this tender with a proper index highlighting the required technical specifications in the offered service documentation that matches the tender specs or requested by the purchaser with **page numbers**. Failure to do the same will invalidate the bid and result in disqualification.
9. The bidder has to give an undertaking of acceptance of all terms & conditions along with the technical bid on the company's letterhead as per the format given in the tender document. Failure to do the same will invalidate the bid and result in disqualification.
10. Along with the technical bid, the bidder has to submit a) the **compliance sheet** as per the given format in the tender document, b) **documents checklist** as per the given format in the tender document. Failure to do the same will invalidate the bid and result in disqualification.
11. IIT Bombay reserves the right to accept or reject, in full or in part, any or all the offers if a) seller/vendor fails to comply with any term of the contract; b) seller/vendor fails to deliver the service(s) within the stipulated period promptly; c) seller/vendor becomes bankrupt or goes into liquidation or the seller/vendor makes a general assignment for the benefit of the creditors or a receiver is appointed for any substantial property owned by the seller/vendor; d) seller/vendor has misrepresented to buyer.
12. IIT Bombay also reserves the right to re-issue the tender without any explanation. The bidders will not have any right to object to such re-issue of tender.

13. IIT Bombay reserves the right to terminate the order/tender/PO if the bidder violates any of the terms and conditions of the tender.

12. Service Level Agreement (SLA)

The SAP platform services will be available 24/7, with scheduled maintenance windows communicated to the Client at least 7 days in advance.

A. Performance Metrics

The Service Provider agrees to meet the following performance metrics:

i. System Uptime: The SAP platform system will have a minimum uptime of 99.5% per month, excluding scheduled maintenance.
ii. Incident Response Time: High priority incidents will be responded to within 30 minutes. Medium priority incidents will be responded to within 2 hours. Low priority incidents will be responded to within one day.
iii. Issue Resolution Time: High priority issues will be resolved within 4 hours. Medium priority issues will be resolved within 1 day. Low priority issues will be resolved within one calendar week.

B. Classification of Issue Priority

i. **High priority issues** are critical and need immediate attention due to their severe impact on all business operations.
ii. **Medium priority issues** have a moderate impact on some important but not all business operations. These issues need prompt attention but do not cause immediate and severe disruption.
iii. **Low priority issues** are minor and have a minimal impact on business operations. These issues can be resolved during regular maintenance windows.

High Priority Issues	
	• System Outage: The SAP system or critical components are completely down, affecting all users. Components such as, but not limited to: database, authentication, API gateway, Network, Load balancer, etc. • Data Corruption: Critical business data is corrupted or lost, and business operations cannot continue. • Security Breach: Unauthorized access or security vulnerability that could lead to data breaches.

	● Performance Degradation: Significant degradation in system performance affecting core business processes, such as order processing or financial transactions. ● Critical Functionality Failure: Failure of key functionalities essential for daily operations, authentication failure, API etc.
Medium Priority Issues	● Partial System Failure: Certain modules or functions are not working, but the overall system is still operational. ● Non-Critical Data Issues: Data inconsistencies or errors that do not stop business operations but need resolution. ● Performance Issues: Noticeable but not critical performance issues affecting non-essential processes or a subset of users. ● Non-Critical Functionality Failure: Failure of non-critical functionalities that can be worked around temporarily.
Low Priority Issues	● Minor Bugs: Non-disruptive bugs or cosmetic issues that do not affect the functionality or performance of the system. ● User Inquiries: General user questions or requests for information that do not require immediate action. ● Routine Maintenance: Requests for routine system maintenance or enhancements that are not time-sensitive. ● Documentation Requests: Requests for additional documentation or training materials.

C. Incident Management

The Service Provider will maintain a process for logging, tracking, and resolving incidents. The process includes:

   i. Logging incidents reported by users.
  ii. Categorizing and prioritizing incidents.
 iii. Assigning incidents to appropriate personnel.
 iv. Communicating status updates to the Client.

D. Reporting

The Service Provider will provide the Client with monthly reports detailing:

i. System uptime and downtime.
ii. Number and nature of incidents reported.
iii. Incident response and resolution times.
iv. Maintenance activities performed.

E. Escalation Procedure

In case of unresolved issues, the following escalation procedure will be followed. The proposal must document the escalation matrix. Sample shown below:

i. Level 1: [Initial contact person/role]
ii. Level 2: [Next level contact person/role]
iii. Level 3: [Final escalation contact person/role]

F. Responsibilities

1. Service Provider Responsibilities:

   i. Ensure the availability and performance of the SAP platform system.
   ii. Perform regular maintenance and updates.
   iii. Provide timely support and issue resolution.
   iv. Maintain security and compliance standards.

2. Client Responsibilities:

   i. Report incidents promptly.
   ii. Provide necessary access to systems and information.
   iii. Follow the Service Provider's guidelines and procedures.
   iv. Ensure user compliance with security policies.

G. Penalties

If the Service Provider fails to meet the agreed performance metrics, the following penalties will apply:

i.   If the vendor fails to complete the migration activity within the stipulated period, IIT Bombay will impose a penalty of 0.5% per week of the total amount, subject to a maximum of 10% of total purchase order value.

ii. No penalty will be imposed for the durations leading to delays in implementation due to reasons solely attributable to IIT Bombay.

iii. For every hour beyond the agreed response/resolution time, a service credit of 0.1% of the annual AMS amount, will be applied.