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Additional Tools for a World-Class ERP Infrastructure

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This research provides a guide to the infrastructure elements that are needed (to varying degrees of depth and scope) for ERP implementations and postimplementation support, but aren't always explained or offered by the ERP vendor. Application leaders and IT managers should use this research to identify areas where tools can improve ERP manageability and total cost of ownership (TCO).

Key Findings

- Gartner clients frequently say that their ERP sales representatives claimed that no extra infrastructure management tools were needed for their ERP projects. However, in reality, clients needed many additional tools.
- In some cases, additional tools are optional; however, in other cases, they are mandatory to achieve a complete implementation.
- Gartner receives many inquiries regarding advice about tools utilized by other ERP users.
- Infrastructure management tools often are not planned for as part of the ERP life cycle, or included in the budget for TCO.

Recommendations

- Enterprises planning an ERP implementation should also plan and budget for infrastructure management tools to lower their cost of ERP ownership, and to improve the application's availability and manageability.
- Enterprises that have ERP projects with more than 300 concurrent users should consider where additional infrastructure management tools (beyond those that come with the ERP stack) would enable a single view of their entire infrastructure, or streamline the efficiency of their application administration and operations teams.

- As part of the selection process, enterprises should determine the performance overhead that's needed by each tool, as well as its ongoing support cost. Predicting ROI from a tool investment is hampered by the lack of real savings data.

Analysis

System administrators on ERP implementation projects often ask Gartner whether they should invest in tools to manage their ERP applications and underlying infrastructures. If so, then they also ask about the support areas where tools would provide value, and what types of tools they should investigate. Many enterprises realize too late in their projects that additional tools are required to have an integrated view of the complete ERP solution, including the ERP application, hardware platform, operating system, database and network components.

Which Projects Need Extra Tools?

Small ERP projects (with fewer than 300 concurrent users) are often less complex, and may have a smaller impact on the information and data integration, IT infrastructure, and IT services that support the project. Therefore, these projects are less likely to need additional infrastructure management tools, beyond what is supplied with the ERP stack. The size of the application portfolio also impacts the need for infrastructure tools and services. The smaller the application footprint, the fewer tools needed to manage it, and vice versa.

Larger projects in terms of user workload invariably are more complex, and, as a matter of policy, enterprises often insist on a more automated and process-driven approach to managing their complete infrastructures — within the ERP application, as well as between the ERP and non-ERP applications. Such projects will need several infrastructure management tools, due to the greater impact on the enterprise's IT infrastructure and IT services. However, any ERP project in which IT operations is outsourced won't need these tools, other than those for monitoring the delivery of the outsourcer's SLAs.

Which Tools?

A wide range of management tools has evolved to form part of the ERP ecosystem. ERP vendors have recognized the importance of these tools, especially in areas such as backup/restore, job scheduling and others. Consequently, ERP vendors have enacted formal programs to test and certify the product interfaces. Under ERP vendors' software partner programs, third-party applications, interfaces and software tools are formally tested to ensure that they conform to interfacing standards for the vendors' products. However, the ERP vendors don't take responsibility for any environmental changes needed to run the tools. For example, infrastructure management tools may impose a system performance penalty. Additional server resources, such as CPU, disk and memory, aren't in scope for the ERP-vendor-provided sizing estimates.

Use Table 1 to locate areas where tools may be used, as you determine whether tools would be appropriate to improve your ERP infrastructure management services. In addition, Table 1 provides:

- An example of the kinds of tools available for ERP infrastructure management. Although you need some knowledge of each required tool during the infrastructure design phase, most of the tools are first used during the implementation phase of the ERP life cycle.
- Criteria to determine whether a tool will be needed in a given infrastructure management area, as well as a sample of vendors that provide each type of tool. For a complete list of certified third-party vendors, see the ERP vendor's website. Several infrastructure management tool vendors provide more than one type of tool.
- The relative importance of each type of tool, and identifies particular areas of Gartner best practices. Importance is defined as follows:
  - Mandatory: a tool that is always a prerequisite to a complete, reliable ERP infrastructure
  - Best practice: a tool that has a major impact on improving the overall reliability and cost-effectiveness of the ERP infrastructure
  - Optional: a tool with the potential to improve the reliability and cost-effectiveness of the ERP infrastructure; however, demonstrating ROI may be challenging

Table 1. Guide to ERP Infrastructure Management Tools Used During Implementation

Type of Tool	Consider Using This Tool When the Project Needs ...	Importance	Examples of Tool Vendors
Application monitoring	ERP application monitoring	Best practice	BMC Software, HP, Quest Software, IBM
Application testing	Automated, repeatable test scenarios	Best practice	HP, IBM-Worksoft, CA Technologies, IntelliCorp, Arsin, Original Software, Tricentis
Application testing — data management	Repeatable test data	Best practice	EPI-USE, Hayes Technology Group, IBM, Informatica, ERP vendor
Application testing — stress testing	Formal project stress tests	Optional	HP, CA Technologies, Micro Focus, IBM
Backup and recovery	Database backup	Mandatory	HP, IBM (Tivoli Storage Manager), Symantec (NetBackup), EMC (NetWorker and Avamar)
Business process analysis	Analysis and requirements definition	Optional	Software AG, Tibco Software, Metastorm, IntelliCorp
Change management	Correction and object migration system	Mandatory	ERP vendor, HP, Aldon, Quest Software, IntelliCorp, Revelation Software, Phire
Client management (PCs/mobile devices)	Automated ERP graphical user interface (GUI) distribution	Optional	Microsoft, HP (Client Automation)
Clustering management	High availability (more than 95%)	Optional	HP, IBM, Symantec, Oracle-Sun Microsystems
Database design	Extensions and custom bolt-on solutions	Optional	CA Technologies-ERwin, Quest Software (Toad Data Modeler), Datanamic
End-to-end response time reporting	SLA report of detailed response times	Best practice	BMC Software, Knoa Software, ERP vendor
ERP support interface	ERP support issue tracking	Mandatory	ERP vendor
Fault and event management	Better problem management and automation	Optional	BMC Software, HP, IBM, Compuware

Type of Tool	Consider Using This Tool When the Project Needs ...	Importance	Examples of Tool Vendors
Fax integration	Fax integration	Optional	Fenestrae, OpenText (RightFax)
Infrastructure configuration management and provisioning	Server provisioning and configuration, and application release automation	Optional	HP, IBM Tivoli, BMC Software, CA Technologies, Microsoft
Job scheduling	Detailed batch job management	Best practice	UC4 Software, IBM, ASG, Redwood Software
Middleware management	Cross-product integration	Optional	ERP vendor, IBM, Microsoft, Tibco Software, Software AG
Network management	Large, in-house network management	Optional	HP, IBM, CA Technologies, NetScout Systems
Operating system monitoring	Detailed operating system monitoring	Optional	IBM, Oracle-Sun Microsystems, Red Hat
Output management	Report distribution management	Optional	Macro 4, LogRhythm
Remote control	Remote desktop session management	Optional	Microsoft, Symantec, LANDesk
Requirements management	Complex requirements management	Optional	IBM-Telelogic, iRise
Security management	Secure external access to systems	Best practice	ArcSight, IBM, Cisco, Symantec, Virtual Forge
Security testing	Formal project security testing	Optional	HP, IBM, Onapsis, TestPro
Service-level reporting	Business SLA reporting	Optional	Knoa Software, ERP vendor
Software metering	User authentication management	Optional	ERP vendor
Storage management	Storage device management	Optional	EMC-Softworks, NetApp, HP, CA Technologies
User administration	ERP user administration	Mandatory	ERP vendor

Type of Tool	Consider Using This Tool When the Project Needs ...	Importance	Examples of Tool Vendors
Workload balancing	Multiple ERP instances on one server	Optional	IBM, HP, Citrix Systems-Aurema

Source: Gartner (October 2011)

Infrastructure management tools that represent Gartner best practices have a very high impact on the operational efficiency of the operations team, enable the team to be highly proactive and/or enable the team to deliver an exemplary level of customer service. These Gartner best-practice attributes are required to build and operate ERP infrastructures that are considered world-class.

Use Table 1 as a guide to planning your investments in ERP infrastructure management tools. These investments will lower the cost of ownership of the ERP infrastructure, and will improve its overall performance and availability. This is significant for enterprises that intend to deploy multiple business applications or instances from the vendor's suite, because this will multiply the number of technology components (e.g., servers) required in the ERP infrastructure. All these servers, storage media and other infrastructure components must integrate and be managed as one entity.

Other benefits of using the right tools include more efficient use of the application administration and operations teams, and the capability to provide the business with a world-class ERP infrastructure that maximizes the performance, availability and manageability of the ERP application. The list of vendors in Table 1 is for guidance only, and is not a list of recommended vendors or a best-of-breed list. The tools listed for the implementation phase will also be used (in many cases) after the system has been moved into the production operations phase.

The tools listed in Table 2 are additional tools that become relevant once the application enters the production operations phase. Before deploying these tools, ensure that you optimize your generic IT support processes for incident management, problem management and change management.

Table 2. Guide to ERP Infrastructure Management Tools Used During Production Operations

Type of Tool	Consider Using This Tool When the Project Needs ...	Importance	Examples of Tool Vendors
Asset management	Infrastructure asset tracking	Mandatory	IBM, Raritan
Capacity planning	Proactive performance management	Best practice	Microsoft (SharePoint), VKernel, CiRBA
Application testing — change impact analysis	Evaluate the impact of customization, programming and ERP vendor application maintenance changes	Best practice	Intelligroup, IntelliCorp, Panaya, HP, smartShift, ERP vendor
Cloud-based application management	Strategic outsourcing	Optional	NaviSite
Data archival	Database size reduction	Best practice	Informatica, HP, IBM
End-user performance monitoring	Performance improvement	Optional	Aternity, Knoa Software
Instance synchronization	Manage multiple instances	Optional	ERP vendor
Language translation	Global, multilingual, project support	Optional	Systran
Log archiving and analysis	Compliance and optimization	Optional	ERP vendor
Support call tracking	Problem ticket tracking; end users	Best practice	BMC Software (Remedy), FrontRange Solutions (GoldMine)
System optimization	Reduce operations costs	Optional	West Trax, Ibis Prof. Thome, Realtek
Test data management	Repeatable test data copying of a subset of production data	Best practice	ERP vendor, HP, EPI-USE, Hayes Technology Group, Informatica
User interface	Improve end-user experience	Optional	Microsoft (SharePoint)

Source: Gartner (October 2011)

Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Cool Vendors in Data Center Infrastructure Management Tools, 2011"

"Cool Vendors in IT Asset Management, 2011"

"Cool Vendors in Infrastructure Protection, 2011"

"Cool Vendors in Identity and Access Management, 2011"

"Cool Vendors in User and Data Security, 2011"

"Cool Vendors in IT Operations Management, 2011"

"Cool Vendors in the SAP Ecosystem, 2011"

"Cool Vendors in Application Services, 2011"

"Cool Vendors in Release Management, 2011"

"Server Provisioning Automation: Vendor Landscape"

"Managing Between Applications and Operations: The Vendor Landscape"

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