

# The Enterprise Nervous System

By Johnny Henkel

Executives and managers are striving to meet shareholder and customer requirements simultaneously. For a long time, reengineering, process innovation, and exploring the Internet were new means of making profits, but they're less advantageous in today's global economy. There is no more time to experiment and venture capitalists are cutting back.

Within every company exists a white space that could be transformed into profit, if you know where to look and how to leverage it. When establishing and activating an Enterprise Nervous System (ENS) that leverages the white space, executives could experience vast profits, even more than they could imagine.

The ENS is a term defined by Gartner, that in December 2001 wrote a research paper on intelligent service networks and integration that enable a company's resources to interoperate more seamlessly across fixed boundaries and devices. ENS supports business integration efforts inside and outside the company by enabling work, functionalities, and data to flow seamlessly across the value chains. The companies will improve efficiency and learn how to sense events and changes of business conditions to act on a shift in customer demand, seek new business opportunities, avoid mistakes, and reduce errors.

The ENS differs from ordinary integration solutions by addressing and providing:

- Business Process Management (BPM)
- Enterprise Application Integration (EAI)

- Value chain integration
- Portals, communities, and device access
- Messaging infrastructure
- Monitor and recover possibilities.

These components work independently on existing network servers and the ENS quickly facilitates adoption of new functionalities and applications. If a company has one single integration product or an all-in-one application suite, they can be sure that an ENS situation isn't achieved.

## ENS Defined

Most companies today are trying to improve their business by addressing people, processes, and technologies; they cannot see the need for ENS. Perhaps they don't see how a nervous system can change their way of conducting business or maximizing IT investments. They could ask, "Is it really different or are we talking about old wine in new bottles?"

The missing link between business efforts and how they relate to technology implementation is a result of:

- Lack of vision regarding the importance of technology as a key business driver
- Failure to set appropriate priorities for using skills and resources.

Executives think they're doing their utmost but they're leaving the responsibilities up to department heads or treating business integration as a project. These projects, for example, result in implementing best-of-breed applica-

tions, educating the most talented employees and managers, creating the best network of suppliers, and optimally nursing the customers. Those are all good, relevant initiatives, but they could obstruct each other and won't be in the company's best interest.

Revenue creators often oppose technology investments and managers seek to sub-optimize business activities without regard to the underlying vehicle. Companies often fail to obtain promised benefits of technology because they invested only in the technological side of the business, not people and processes. Optimizing half of the business is only half a solution; this can be an obstacle for business improvements. So it's important to balance business and project priorities; this will enable future income and financial stability. The nervous system (see Figure 1) is the key to join efforts on both sides and the impact on business results can be monitored and controlled from day one.

A nervous system isn't just buying some broker or an EAI software package from a vendor or a large Enterprise Resource Planning (ERP) system from another. The nervous system should facilitate integration, regardless of vendor, technology, system, and application, while also providing critical information for making business decisions.

To achieve business opportunities and overcome the threats of a highly competitive, global marketplace, it's necessary for top-level executives to establish a managerial mission statement for an ENS.

### White Space Defined

White space is a computer industry term describing the space that isn't used for storing data on a hard drive or other media. When information is stored, it's digitalized into bits represented by 0s and 1s. The unused space is called null values, also known as free space or white space.

Corporate resources don't consist of 0s and 1s, but companies do have many elements to manage and store. Corporate building blocks, besides tangible and intangible assets, are management, people, work, processes, technologies, and data.

The evolution of a company's structure and resources has shifted. People were put into structures called departments and they worked in offices and obeyed orders from their managers and supervisors. Not many people asked questions or even took the liberty to doubt the purpose of

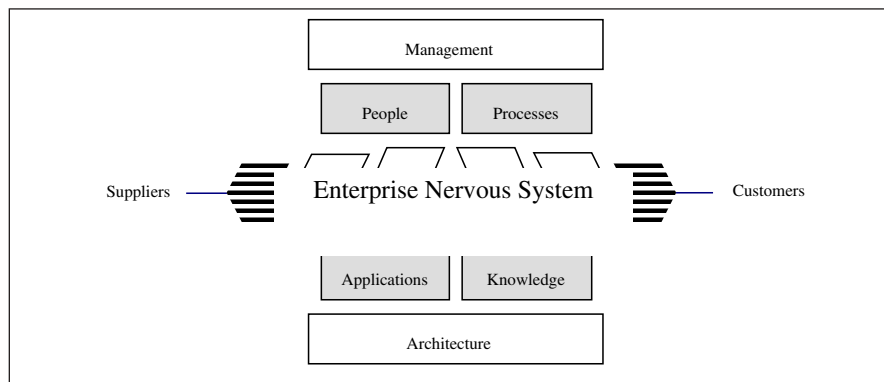


Figure 1 — Enterprise Nervous System Concept (NeoCom)

their tasks. They relied on instructions given by managers who also complied with executive directions.

The structure was regulated by control, supervision, and surveillance. A few executives knew the results of what people were doing. The structure and design of tasks to be performed was designed, outlined, and dictated by managers with little knowledge of the overall objectives and expectations of the outcome. The main concern was getting people to do what they were supposed to do and even to get them to come to work.

The content of a process is a series of tasks, decisions, measurements, and results performed by people with certain skills, abilities, attitudes, and ways of thinking. Processes are interrelated and initiate each other, depending on and regulated by company policies.

Identifying the vast financial and business opportunities invisible within every company can be quantified as the time and costs lost when going from one action to the next or the gap between one system to another. Decisions, events, actions, transactions, and idle work originate from communication and behavior between people regardless of whether the received messages are true or false. Correcting the derived actions leads to activities in the business white space and doesn't contribute to achieving profits.

Process interrelationships and other non-regulated, non-value-adding work and initiatives are defined here as the company's white space.

Building organizations is like putting circles into a triangle; you have to cut some edges and make other compromises. Mathematically, the white space could be calculated as the difference between a business organizational structure (triangle) and resources (circles),

which results in approximately 20 percent. In every company, the white space is even greater; identifying, quantifying, and leveraging it is the new challenge.

### Finding White Space

When identifying and investigating the white space of a company, you have to understand the definitions of work, workplaces, people, processes, business structures, designing value chains, and integrating technologies.

#### People

People are the company's most valuable asset. People have the ability to absorb knowledge about the company, its processes, contacts, and rules. Often they're the primary key to success in projects. People are working to make decisions, execute tasks, and be a facilitator to support work in sensible context. An electronic workplace or workspace is considered to be a facilitator that should stimulate the surroundings of people, so that they can focus on value-adding work for the company and its customers.

When designing and integrating applications, it's important to understand that people basically are different as to the degree of work they're performing:

- Some perform tasks without interacting with IT applications
- Some work with one or few applications
- Some work across many applications and processes.

The first group of people is Manual Workers (MW), a group that isn't highly relevant to technical integration scenarios. The second group, called Transaction Workers (TW), work vertically with applications and data. The last group, Knowledge Workers (KW),

work across boundaries, processes, and applications; they need integration horizontally, where processes interrelate to other processes and applications are extended, connected, and distributed to share data and information.

### Work

Studies of working conditions throughout the world have analyzed the effects on efficiency and productivity by implementing process-centered and integrated solutions. The research has shown that the overall increase in productivity was 2 to 4 percent, but this relates only to salaries and wages that could be measured directly on the bottom line.

Measuring the work performed daily, office workers are spending approximately 33 percent of their time searching, organizing, and structuring data and information before they can add value or perform tasks. When the tasks are completed, they spend about 33 percent of their time archiving, distributing, and communicating the results. So they're wasting a great amount of time on non-value-adding work — work that could be minimized and reduced considerably by automating and integrating these information management and communicative activities.

### Process

A process is defined by a series of actions, tasks, and events, which when combined could, in this article, be defined as a combination of decisions and transactions. A decision is an event performed by a person outside a technical system or application. A transaction is solely performed inside an application but could be executed by either a person, an application, or both.

The main goal for automating and supporting business processes with technology is to accelerate cycle times, minimize redundant activities, and reduce errors. Errors occur when people are communicating with each other and the essence of the message isn't being received correctly. This leads to erroneous interpretations and actions. Customers often complain because the product they received doesn't correspond to the order given. Somewhere along the way, the message has been changed or misunderstood, so that the actual delivery went wrong. The company is at risk of losing such a customer.

Another source of errors is when peo-

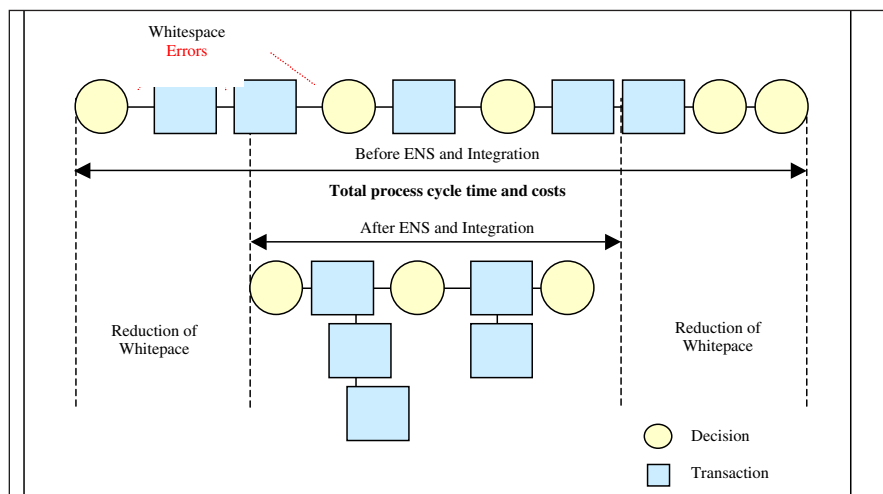


Figure 2 — Impact of Enterprise Nervous System

ple are working with technology such as applications and they don't fully understand what to do and how to do it. Data is entered incorrectly and the system is forced to transact and treat data accordingly. The system or application could even be developed poorly and contain errors. All this takes time and money to correct, maintain, and supervise. Moreover, where such problems persist, user trust in the application fades.

Finally, the most expensive source of errors and ambiguous work is when moving around in different applications and re-entering data. Integration isn't just addressing sign-on, data exchange, storage, and shared functionalities; it's about reducing errors and cycle time, according to process design and objectives.

Visualizing the business processes by the flow of events, transactions, and incidents, people can be proactive in focusing on activities that add value and improve outcomes. Typically, people can quickly identify causes for process bottlenecks and have the ability to act so that the process can be completed. Visualization is also a key issue for the nervous system especially when processes are extended outside the company to automate the value chain.

### Management

The role of management isn't about instructing, controlling, supervising, and administering people and fixed organizational structures. The role and responsibility is to own and design business processes, and ensure that they're staffed with the right competencies and run smoothly.

The main activities associated with owning a process are motivating and

coaching people, and making sure that the necessary tools and data comply with the expected outcome. Interrelationships and interaction with other processes are defined and coordinated in compliance with the overall business goals and objectives.

### Business Integration

Business integration is defined by integrating the resources of a company in regard to people, processes, suppliers, customers, and technologies. By integrating the resources, company executives can shape and innovate their business environment internally and externally. Terms such as value chain innovation, empowerment, skills management, and customer relationships are often applied to projects and initiatives currently being investigated or implemented.

Business integration and integrated business isn't just about connecting technological tools and data to each other; it's mostly about streamlining the business processes and the interacting people.

### Finding White Space

The white space is found when the previous assumptions aren't working according to plan and valuable time and money are lost. The loss isn't arising from mistakes and malignant attitudes, it's happening because sub-optimization efforts conflict with other initiatives and the old organizational structures still shine through and influence our way of thinking and working.

Finding the white space and measuring it requires investigating these key resources and comparing them with how you integrate and use them. Often, applications and people are working together

to solve obsolete problems because the functionality and data don't correspond to the actual need. Integrating applications could help some, but the processes and events probably aren't working as they're supposed to.

White space is the gap between applications, process steps, and interrelated processes. What companies do about white space is important to their success.

## Leveraging White Space

An ENS can orchestrate company resources. With an ENS, a company can take advantage of numerous processes and value chains; it can leverage and capitalize on visible, measurable, controllable resources, and reduce the white space.

New organizations are built upon people, processes, and technologies by working in and supporting each other and improving process steps. A process is designed, measured, and corrected by several critical factors on strategic, tactical, and operational levels. Factors such as time, costs, communication, errors, satisfaction, and complaints on the operational level indicate whether the business is running well or poorly. A process is normally designed to do the right things, fast, cheaply, and error-free but it's seldom optimized and contains a lot of white space.

The next step in optimizing the company resources is to investigate how much white space the company's processes contain. The white space can be reduced considerably by examining a simple scenario, defined by the process shown in Figure 2, and taking into consideration the above mentioned elements.

The process has a certain input that would lead to a desired output, assuming that everything goes right. For example, a customer places an order and he expects the outcome to be delivered goods for which he will pay.

In the process, the following steps of decisions (D) and transactions (T) are executed:

- D — The order is received by accepting the offer verbally by telephone.
- T — The salesperson enters the order into an order system.
- T — He then enters a request into the inventory application to ship the goods ordered.
- D — The package clerk calls the salesperson and asks for the correct delivery address.

- T — The value of the order is entered into a forecast application.
- D — The salesperson calls the sales executive and informs him about the order.
- T — The stock employee prints the documents and labels from the shipping application.
- T — The finance department prints the invoice.
- D — The finance clerk goes to the shipping department and hands over the invoice.
- D — The actual package of goods is sent.

A number of decisions (manual work) and transactions (work with technology) are executed as specified by the process. There is white space everywhere because the process isn't optimized and technologies aren't integrated to support work inside the process.

If an ENS were implemented, most of the white space would be reduced. In this scenario, order acquisition and fulfillment processes are linked together and could take eight hours to complete without the ENS. When the ENS is implemented and the applications are integrated, the same process cycle time is halved to four hours.

The white space is reduced considerably and the process could be optimized by addressing some obvious questions:

- Why does the customer place an order manually? Considerable financial and legal problems could arise due to this. Did both parties fully understand and accept the terms, prices, delivery time, etc.?
- Why did the salesperson not acknowledge the different delivery address, which led to loss of time and required corrective actions?
- Why is it necessary for the financial clerk to manually print and hand over the invoice, when the system could do it automatically?

The need for and benefits of integrating the applications and system is obvious.

## Conclusion


According to industry analysts, margins will decrease over time due to the global economic downturn, increasing competition, market visibility, increased cost structures, and demanding customers. Analysts expect the bottom-line

(EBITDA) to be reduced by up to 7 percentage points. In that case, many companies are in a bankruptcy danger zone.

Inside every company, the white space could be transformed into profit and cash, if you know where to look and how to leverage it. By establishing and activating an ENS that supports, automates, and leverages business resources and reduces white space, executives could experience vast profits.

The ENS can save a company a great deal of money by enabling process optimization and better utilization of resources. Management consultants are helping companies to design and implement processes and technologies, educate and motivate people, coach and inspire managers. Without the vision and plan to implement an ENS, it's hard to see the real benefits. Eventually, the company will realize the need for business integration to perform as an integrated business.

Business resources and objectives should be aligned and integrated into an ENS. Processes will be running smoothly and the possible errors will eventually be reduced and free up time and money. Processes running faster lead to faster interrelationships with other processes and the overall value-adding work improves corporate results. Having control of the business, the next step is to extend the processes outside the company, accelerating value chains and enabling new market opportunities and partnerships.

Finally, smooth processes running inside an ENS enable real innovation and will motivate people to do more. Good financial results tend to create proud people and the prestige in having delivered results will encourage people to stay longer, as they can identify themselves with the company's success. 

## About the Author



*Johnny Henkel, the founder of Surf-Tech, is considered a pioneer and industry leader in the introduction of Lotus Domino as a vehicle of business process*

*innovation. He is recognized internationally for his contributions in business process innovation, conceptual creativity, and rapid development methodologies. Voice: +45 43 52 16 81; e-Mail: johnny\_henkel@hotmail.com.*