

software



Whitepaper

theGuard! ApplicationManager

Status: June 18, 2008

Event Business

ID	Event	Time	Source	Category	Severity	Component	Managed Object
217254	wdf#11		SAP R/3				
217253	wdf#11		SAP R/3				
217252	wdf#11		SAP R/3				
217251	wdf#11		SAP R/3				
217250	wdf#11		SAP R/3				
217249	wdf#11		SAP R/3				
217248	wdf#11		SAP R/3				
217247	wdf#11		SAP R/3				
217246	wdf#11		SAP R/3				
217245	wdf#11		SAP R/3 Enterp...	Instance:R21_2	Warning	System	Pastr
217244	wdf#11		SAP R/3 Enterp...	Instance:R21_2	Warning	System	Pastr
217243	wdf#11		SAP R/3 Enterp...	Instance:R21_2	Warning	System	Pastr
217242	wdf#11		SAP R/3 Enterp...	Instance:R21_2	Warning	System	Pastr
217241	wdf#11		SAP R/3 Enterp...	Instance:R21_2	Warning	System	Pastr
217240	wdf#11		SAP R/3 Enterp...	Instance:R21_2	Warning	System	Pastr

Benchmark

Color	Width	Style	Scale	Category	Counter	Unit	Server	Managed Object
Red	1.0	Solid	1.0	Performance	% Processor Time	%	wdf#057#01	wdf#057#01/System/Windows 2003/Operating System/Microsoft(R) Windows(R) Server 2003 Enterprise x64 Edition/Process Group/MS SQL Server
Blue	1.0	Solid	1.0	Process	Cpu usage %	%	wdf#057#01	wdf#057#01/Windows 2003/Process group/SAP Prozesse



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Introduction

Continuously changing markets, drastically reduced product innovation and cycle times, fewer manufacturing and labor resources, and the resulting organization changes are just some of the challenges companies are confronted with. Information technology is key to mastering these challenges, and application management of particular importance because application failures immediately impact business operations. Conventional network and system management solutions are unable to detect anything more than a small part of the failures that can occur when running large applications.

There's more to efficient application management than maximizing availability. Performance analyses and targeted tuning can increase the performance and stability of business-critical applications without having to invest in additional hardware such as processors, RAM, and disk space.

Error management and alerting must be easy to adapt to different organizational structures and work models, such as shifts and homeworkers.

An integrated and easy to configure service level management and reporting solution is indispensable when it comes to documenting the IT services provided. Customers and end users can make sure contracts are adhered to and weight the resolution of errors according to the SLA.

Monitored Applications

theGuard! ApplicationManager uses special data collectors (DC) to monitor the most diverse software systems and applications. DCs are available for the following systems and applications:

- Operating systems
 - HP-UX
 - AIX
 - Sun Solaris
 - Tru64
 - Microsoft Windows
 - different Linux distributions
- Databases
 - Oracle
 - Microsoft SQL Server
 - IBM DB2
 - MaxDB
- mySAP applications
 - APO
 - BW
 - CRM
 - R/3
 - SAP Enterprise
 - SAP NetWeaver



Moreover, additional applications can be monitored by combining a number of other data collectors:

- Operating system data collectors are used to monitor specific application processes
- File parser data collectors are used to monitor specific log files
- Open monitor data collectors are used to monitor specific applications

More information about each of the data collectors can be found in their respective white paper.

Various data collector releases are available in 32 and 64 bit versions for all common operating systems. The REALTECH ApplicationManager Matrix platform matrix contains a detailed overview of available data collectors.

Application Information

Data collectors do more than simply collect **events** according to pre-defined rules. They deliver every **performance** value and the **current status** of each application object in **real time**. They also provide insight into **configuration attributes**, such as the release status or the application's parameter settings.

Data collectors model an application in objects and sub-objects, enabling the dedicated handling of alerts, monitoring, reporting, service level management or status messages.

Modeling ensures that information is clearly structured and error messages easy to allocate. Below is a description of the different types of information provided:



Events

Events are accurately described incidents that occur within the monitored applications. Specific application interfaces enable theGuard! ApplicationManager to provide extensive and detailed information about an application. This ensures that **each incident** is found at an early stage, which increases the system's availability.

Performance Values

The speed of an application increases end-user acceptance. However, the speed depends on a number of technical factors. To analyze the performance, data must be **monitored continuously** and its details logged. theGuard! ApplicationManager collects a number of different performance values for each application object that is monitored using thresholds. Thresholds can be configured in a number of ways to prevent events from occurring unnecessarily. The collection of the data and the storage of the performance data can be configured individually at any level, for example, to optimize disk space in the central database.

General Application Information (Properties)

In addition to automatic application monitoring, daily operations require insight into a variety of other data and information. theGuard! ApplicationManager **provides general overviews**, for example, of software release information, configuration parameters, active users, and the memory used by each application object.

If more analyses are required, the **AppLauncher** can be started in the appropriate context from the user interface. Once AppLauncher has been configured, users can start a Telnet session, an SAP transaction, or another application without having to log on again.

Statuses

theGuard! ApplicationManager displays an application's status in two ways. All of the error statuses are color coded and displayed cascaded, and **the current status of the software instance—Up/Down**, i.e. its **accessibility**—is displayed in color. This is an important feature because this type of error status must be solved quicker than a historical event.

Installation, Configuration, Extension, and Modification

The quick and easy installation and configuration of a professional application management solution guarantees rapid return on investment and reduces the total cost of the project.

Another factor that determines a successful application management solution is the ease with which it can be adapted to a changing application landscape. theGuard! ApplicationManager has a number of special advantages that support change processes efficiently:



Agent and Data Collector Distribution

An agent and the data collectors (one per application type) are installed on the server that is to be monitored. For SAP monitoring an additional program package will be used that collects data inside the respective SAP system. This package is called ABAP-Suite. The agent is distributed for the first time either manually or automatically by means of a professional software distribution package. All of the other processes, such as installing the data collectors or updating the agents when the release changes, are performed **automatically**. There is the special software “ABAP-Suite Configuration and Distribution Assistant” (CDA) available that allows for centrally administering and configuring the ABAP-Suite.

Monitoring Configuration

Data such as poll rates, login data and so forth that impact the data collector's behavior are **configured only once**, and can, even if the data changes, quickly be assigned to the different application objects. Moreover, configurations can be defined centrally and can be applied to elements of similar type. This allows for configuring large homogenous landscapes with less effort.

Auto-Discovery

The **automatic discovery of new application instances** and objects, including the automatic allocation of policies, enables **automatic monitoring** even in those cases in which system administrators have completely reconfigured the application, for example, by adding new instances or objects.

Policies and Filters

The policies for thresholds and event groups are delivered **fully pre-configured** for each application. REALTECH develops its products in accordance with the application manufacturers' standards and recommendations, and using its own project experience. The policies are designed modular and can be reused and combined in sets.

To start monitoring, policies are allocated to application objects by simple mouse-click. Policies run on the monitored server and make sure the **network load remains low**.



Reaction Management and Alerting

theGuard! ApplicationManager supports different reaction types:

- Reactions that are triggered by an event
- Time-driven reactions
- Reaction sets with **escalation**

Reactions are configured only once and linked to policies. This ensures, for example, if a person's responsibilities change, that the software can only be reconfigured in one place.

Reactions can be bundled into reaction sets. This enables different reactions to be processed **in parallel** or in sequence. When the triggering event is closed within the processing delay, the next reaction is not executed, and the reaction set is closed. Alerts can also be **delayed on purpose**.

Reactions sets can be configured according to different **operating types**. Operating types can be time-driven or manually activated from the interface.

Error events can be **automatically closed** by reaction-driven "positive" events. When used with the delay alerting option, alerts are not created for transitory system problems.

theGuard! ApplicationManager supports more than 120 different types of reactions that are easy to configure using a wizard. The following list is far from exhaustive:

- GSM Short Messages (TAP or UCP-based, for example, D1, D2, ePlus, SwissCom, Sprint PCS, Telefonica, etc.)
- Pager (numeric and alphanumeric devices, for example, Pagenet, Quix, Scall, Skyper, SwissCom, Telmi)
- Non-standard pager or short text messages (SMS)
- E-mail (MAPI and SMTP)
- SMS via E-mail
- Fax
- Windows NT Messaging Service (Netsend)
- Windows NT Event Log entries
- Log File
- Databases via ODBC
- MS Exchange, Lotus Notes (Mail, Tasks, etc.)
- Speech Support
- SAP Solution Manager
- SAP System Messages
- HTTP Converter for messages on the Internet
- Listener devices: Mail boxes
- User-configurable reactions for scripts, executables, etc.
- Links to other trouble ticket systems, preferably with theGuard! ServiceCenter
- Links to other enterprise consoles such as Tivoli (TEC), HP (ITO) or BMC Patrol

The variety of reactions enables **IT organizations to send informative messages in a tailored, sound, and secure way**.



Monitoring and Alerting

Monitoring can be **switched on or off** for each application object by mouse-click or by running a script.

Alerting can, **independently of the monitoring function**, also be **switched on or off for** each application object by mouse-click or by running a script.

This is useful, for example, because you can switch off alerts while maintaining hardware and software that affects the monitored application. Monitoring may have to remain switched off during the maintenance period in order to display the down status in service level management and reporting.

theGuard! ApplicationManager has a permanent **auto-monitoring** feature that ensures that the communication between the components is working. Should the solution or the network malfunction, emergency reactions will be triggered to inform the user.

Configuration Change Management

All of the configuration changes are logged and can be traced. **The central relational Microsoft SQL Server stores the collected data in addition to all of the configuration data.** The database can be easily integrated with existing security concepts.



User Interface and Management

theGuard! ApplicationManager is a **true multi-user application** that enables several users to log in to the central server at the same time (concurrent user principle). The administration of the users and of their individual settings takes place with a separate application. You can import users from the windows user management or add them manually. The dedicated role and authorization management ensures that changes can only be made by authorized users.

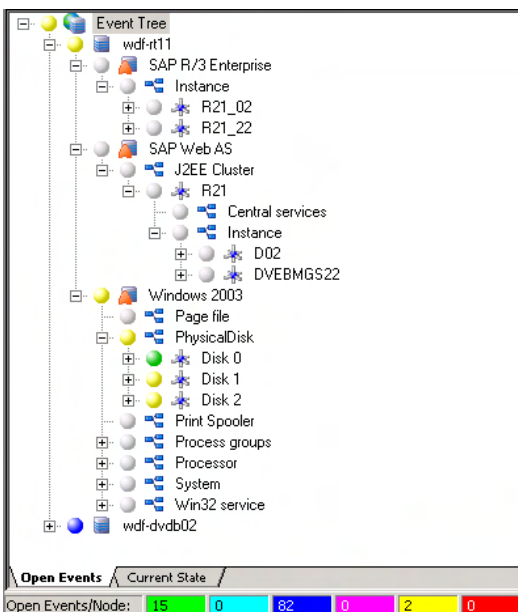
The ergonomic user interface makes it easy to configure objects and navigate to application information. The user interface **can also be personalized**—from the way the windows look to the configuration of the data filters. The settings are stored for each individual user.

The interface consists of **clearly structured** windows that are non-modal. The windows are interactive, have a **drag & drop** function and enable users to **branch off to context-related sessions** (for example, a user can branch off from an event in the event browser to the management monitor, where all of the application information is stored).

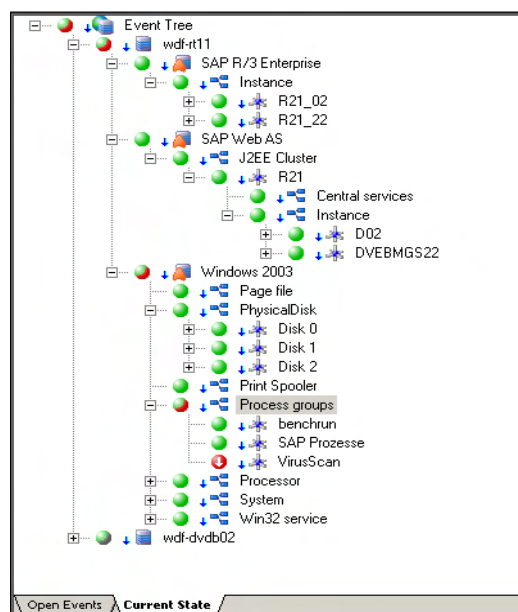
The following monitor types are available:

Managed Monitors

Managed monitors display all of the specified events in a tree structure in which the **severities are color coded and cascaded**. Moreover, the **current status** of the application objects and sub-objects are displayed separately. Managed monitors can be individually configured by area of responsibility or competence by **depth, breadth, and type of information** by dragging and dropping them.



Open application events

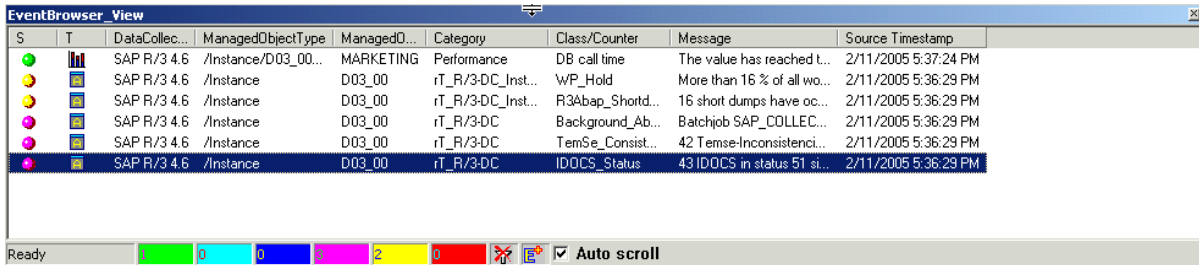


Current application status



Event Browser

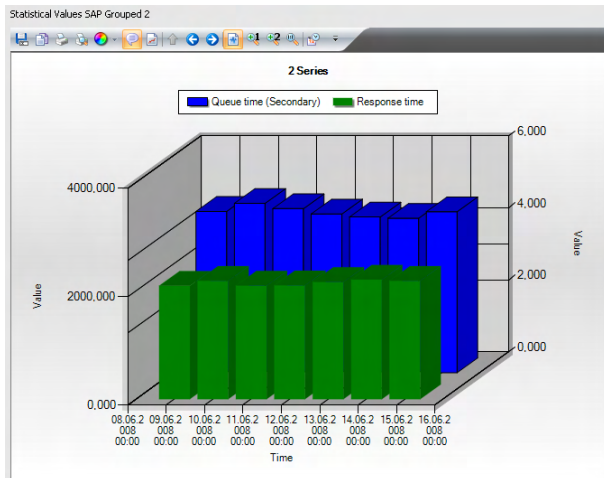
Event browsers automatically display new events. The size of an event browser, as well as the **depth, breadth and type of information** it displays, is configured using filters.



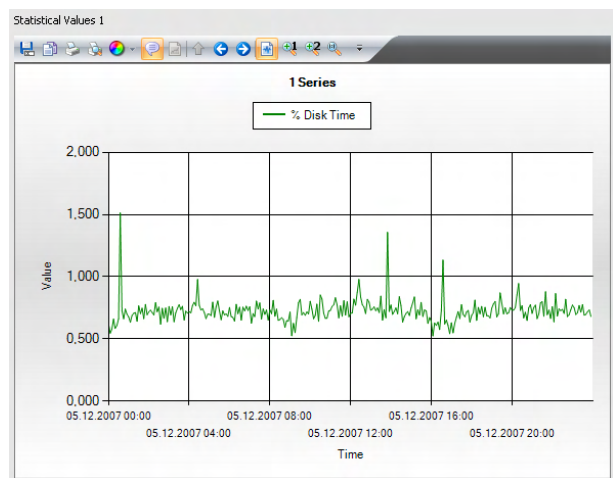
S	T	Data Collec...	ManagedObjectTyp...	ManagedO...	Category	Class/Counter	Message	Source Timestamp
●	■	SAP R/3 4.6	/Instance/D03_00...	MARKETING	Performance	DB call time	The value has reached t...	2/11/2005 5:37:24 PM
●	■	SAP R/3 4.6	/Instance	D03_00	rT_R/3-DC_Inst...	WP_Hold	More than 16 % of all wo...	2/11/2005 5:36:29 PM
●	■	SAP R/3 4.6	/Instance	D03_00	rT_R/3-DC_Inst...	R3Abap_Shortd...	16 short dumps have oc...	2/11/2005 5:36:29 PM
●	■	SAP R/3 4.6	/Instance	D03_00	rT_R/3-DC	Background_Ab...	Batchjob SAP_COLLEC...	2/11/2005 5:36:29 PM
●	■	SAP R/3 4.6	/Instance	D03_00	rT_R/3-DC	TemSe_Consist...	42 Temse-Inconsistenci...	2/11/2005 5:36:29 PM
●	■	SAP R/3 4.6	/Instance	D03_00	rT_R/3-DC	IDOCs_Status	43 IDOCs in status 51 st...	2/11/2005 5:36:29 PM

Performance Monitors

The ApplicationManager provides different performance monitors. A performance monitor can contain the performance values of a variety of application objects. This enables **performance to be analyzed in detail in real time, as well as from stored values**. Additional objects can be easily dragged and dropped.



Statistical Values, grouped



Statistical Values



Reports

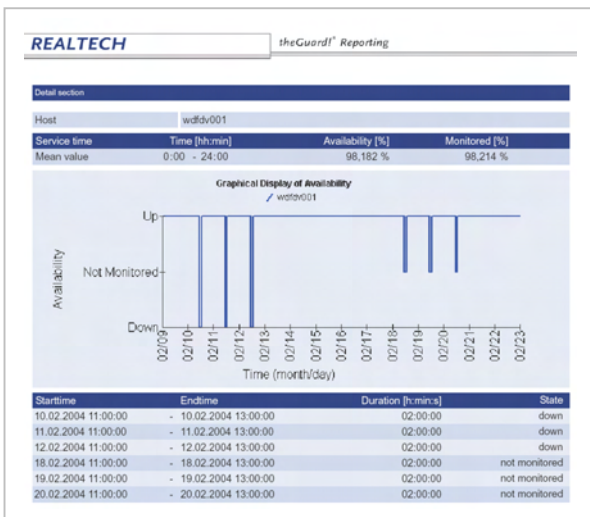
Central reporting enables users to create individual reports for data that is stored in the database. They enable the **capacity and performance of every resource to be managed effectively** and in detail.

There are different reports for availability, performance, and event data. To provide a better overview, the reports can be limited to specific application instances and objects, and to the information they contain. The configuration wizard works according to the collection principle: the user first selects the information to display (one's own range of IT services) and then the objects, such as servers and applications.

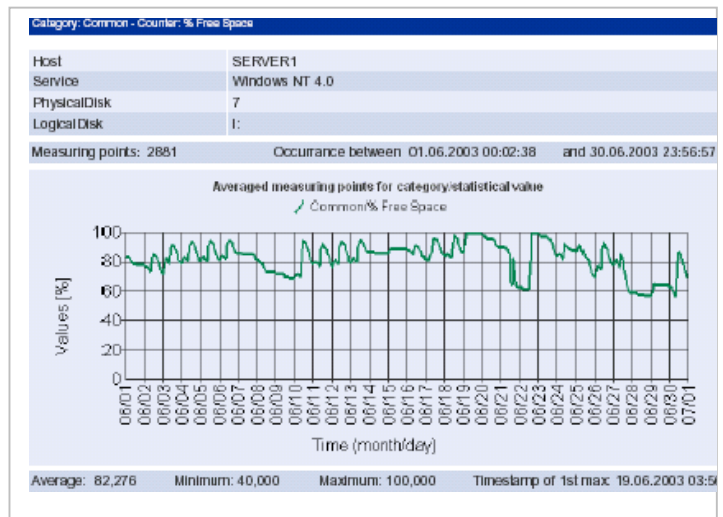
theGuard! ApplicationManager provides **pre-configured reports**, making it even easier to quickly create reports.

The reports' layout, meaning header, logo and footer can be **personalized**.

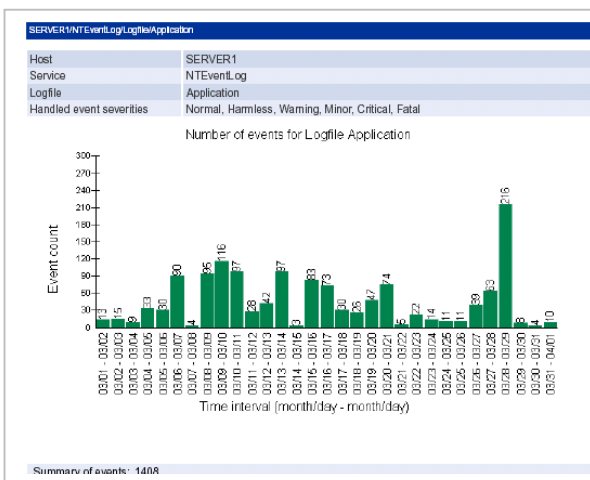
Reports are generated through a reporting server, which also has a scheduling function.



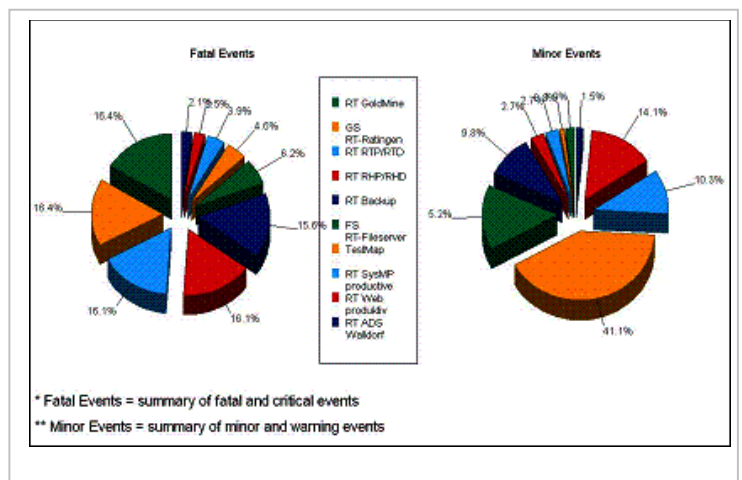
Availability



Performance



Event distribution over time



Event distribution by application objects



Service Level Management

The integrated service level management function ensures that the service levels for application availability and performance are adhered to. Service Level Agreements (SLAs) can be configured in a number of ways:

- Company
- Contracts
- Filed written contracts
- Contract duration
- Maintenance periods (ad hoc, periodic)
- Service times
- Object Level Agreements (OLAs)

In addition to the common, more technical OLAs, ApplicationManager also monitors **OLAs for SAP transaction response times**—a key criterion for modern IT management.

A **wizard** is used to define OLAs for the availability and performance for application objects. Red and yellow warning thresholds can be defined per OLA. The ability to model information as managed objects plays a role.

The service level reports compare all of the defined OLAs with the real data in theGuard! ApplicationManager and display the contract data (policies) and the **compliance with or violation of a contract**. There are two types of reports: one that provides a business overview and one for the IT administrator that has an additional list of critical events.

Quarterly availability specification

Performance	red	98 %				
Performance	yellow	99 %				
No.	Host	Service	Type	Transaction	Countername	Performance criteria
1	wdfdv-aja-1	R/3 4.6B	Transaction_group	*	Frontend response	Performance < 1000 ms

Monthly availability specification

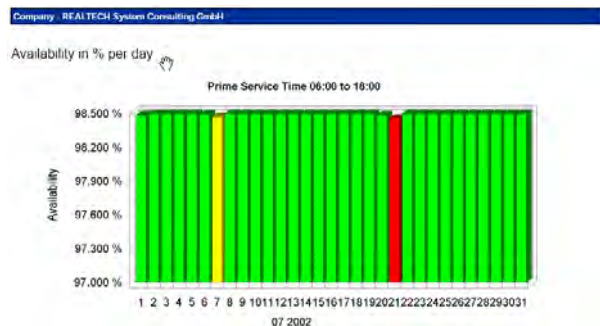
Performance	red	98 %				
Performance	yellow	99 %				
No.	Host	Service	Type	Transaction	Countername	Performance criteria
1	wdfdv-aja-1	R/3 4.6B	Transaction_group	*	Frontend response	Performance < 1000 ms

Daily availability specification (prime time)

Performance	red	98 %				
Performance	yellow	99 %				
No.	Host	Service	Type	Transaction	Countername	Performance criteria
1	wdfdv-aja-1	R/3 4.6B	Transaction_group	*	Frontend response	Performance < 1000 ms

Daily availability specification (nonprime)

Performance	red	98 %
Performance	yellow	99 %



Performance rules (Performance OLA)

Reports on the breach of contracts and rules



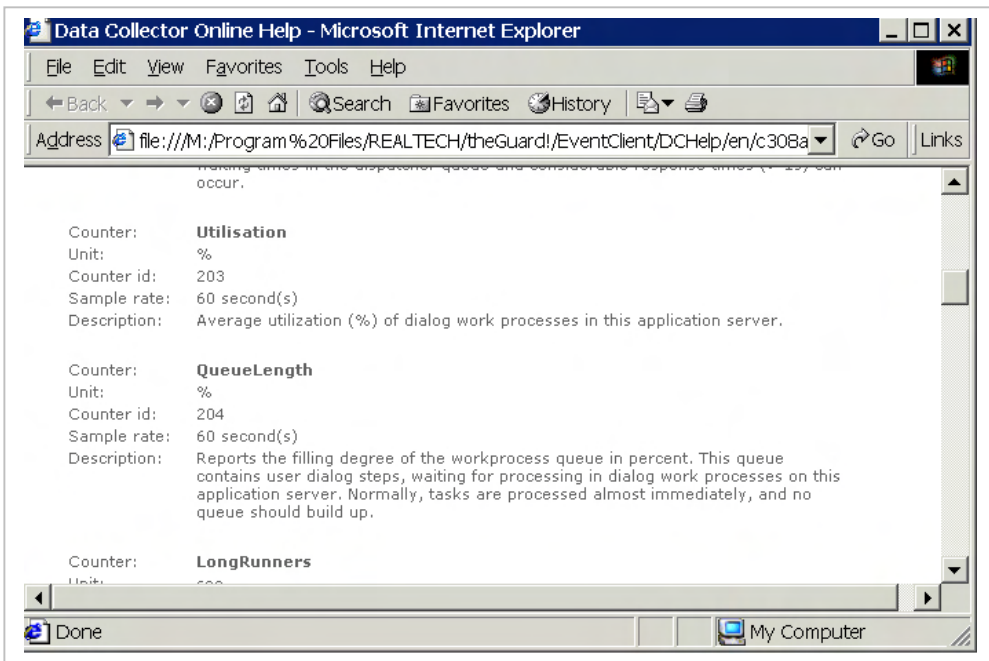
Inclusion of Additional Information

A special **OpenMonitor data collector** is used to monitor, manage, report on and generate alerts for additional information that is not provided by the application data collectors.

The OpenMonitor manages user-definable objects and processes event data that is sent to theGuard! ApplicationManager through scripts. In this sense, theGuard! ApplicationManager is an open platform that can process any type of information. The advantage is that Reporting, Service Level Management, Error Correlation and Visualization in theGuard! ServiceCenter can **seamlessly integrate this data into the process**.

Context-Sensitive Help

More detailed information about events and performance values can be found in the **context-sensitive help** that is available throughout the application. Detailed **background information** facilitates the configuration and interpretation of the displayed messages.



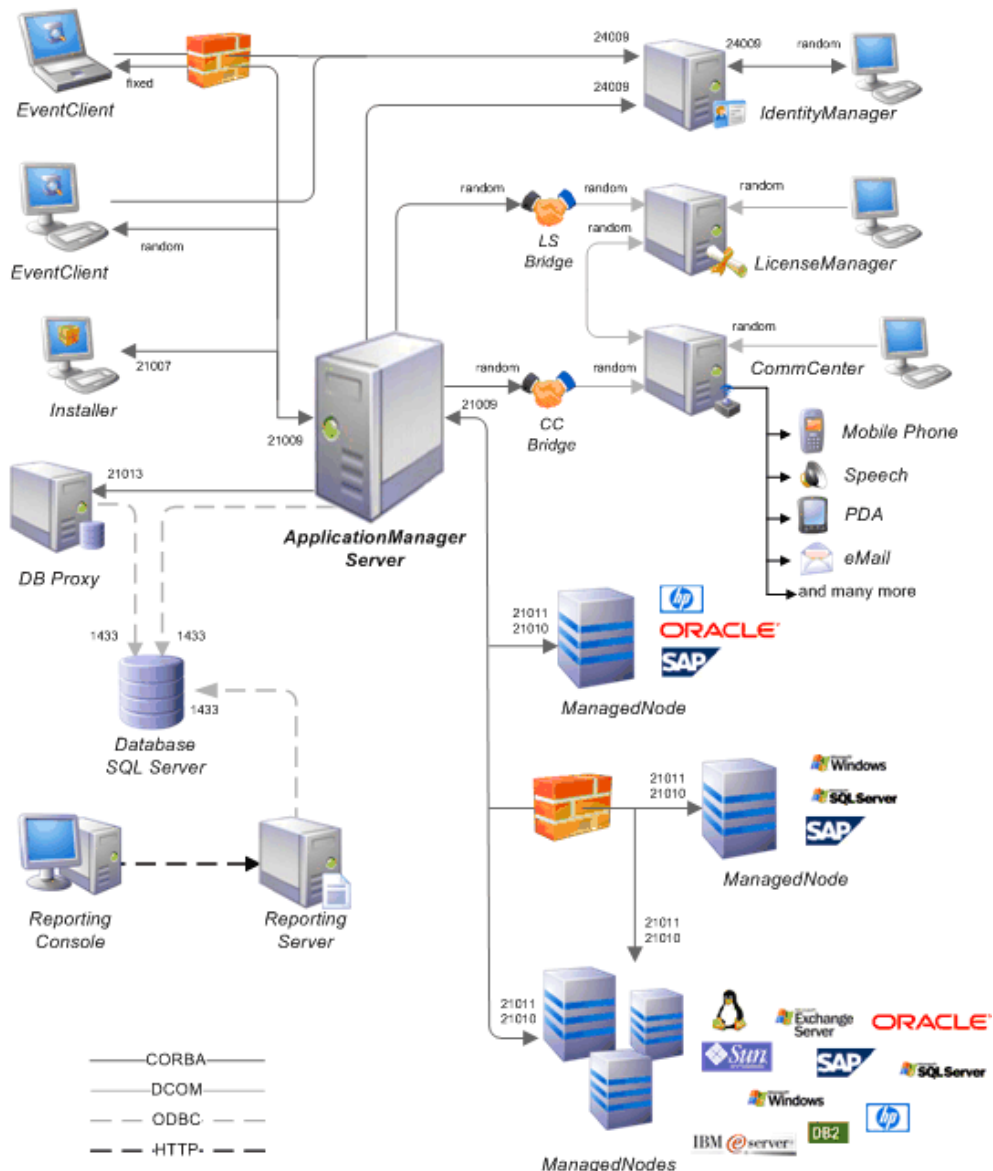
Knowledge Database

All of the basic data for the possible events and performance violations are entered in advance in the theGuard! ServiceCenter's knowledge database. **Individual solution suggestions** can be managed in multiple languages. The knowledge database can be displayed in context (for example, for a specific event) from the ApplicationManager's user interface in a number of places.



Architecture and Scalability

theGuard! ApplicationManager is a professional three-layer application that supports multi-user, multi-server operations. The CORBA architecture enables all of the components to communicate with each other at all levels at all times. All of the data is stored in a **central Microsoft SQL Server database**. An agent on the monitored server (managed nodes) ensures the communication between the managed node and the central server. The data collectors **communicate directly and locally** with the agents and the applications running on the monitored server. Even when used heavily, the agents and data collectors only **use few resources**, such as memory and CPU. Based on the **push architecture** between the agent and the central server, network utilization is very low for a number of events, in part because the **policies are already running** on the monitored servers.



For more information about
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