

Wacker-Chemie GmbH Centralizes IP and DNS Control, Reduces Downtime, and Improves Productivity with VitalQIP® Software and runIP™ Appliances

In Brief

Goal: For Chemical manufacturer Wacker-Chemie to centralize IP, DHCP, and DNS control, move its infrastructure to Microsoft Active Directory, reduce downtime, and improve productivity.

Solution: Lucent's VitalQIP® DNS/DHCP IP management software for configuring, automating, integrating, and administering IP services across the network. n3k Informatik's runIP™ Managed Appliances, which provide a consistent hardware environment to extract the maximum benefit from VitalQIP® investments. With n3k consulting services delivering planning and integration.

Results: Elimination of domain outages; centralized oversight and management of IP and DNS; elimination of IP conflicts; reduced downtime due to IP conflicts; increased efficiency and productivity; more efficient troubleshooting; a smooth transition to Microsoft Active Directory; efficient upgrading and patching.

Introductory callout

The German-based chemical company Wacker has dozens of production facilities and offices around the world connected in a Wide Area Network (WAN) by a fully meshed IP VPN. But it suffered from problems with managing DNS, IP, and DHCP, much of which was managed locally. The company experienced frequent domain outages and IP conflicts, and because there was no centralized control, it was difficult to know what was causing the problem or how to solve it. At times, because of problems with name resolution, printing capabilities for the company's critical resource planning application went down, with the result that products could not be shipped from Wacker factories. Additionally, the company wanted to move to a Microsoft Active Directory architecture, but it could not meet key required capabilities, such as dynamic DNS worldwide. To solve the problem, Wacker turned to Lucent's VitalQIP® DNS/DHCP IP management software for configuring, automating, integrating, and administering IP services across the network, coupled with n3k Informatik runIP™ Appliances for an efficient solution to configuring, deploying, updating and patching their DNS and DHCP servers. As a result, it has eliminated domain outages, IP conflicts, and name resolution problems; increased uptime; decreased troubleshooting costs; and has been able to deploy Microsoft Active Directory worldwide.

Benefits

Objective	Benefits Achieved
Reduce downtime and outages	Since installing VitalQIP®, DNS and IP outages have been reduced.
Ensure that factory control systems dependent on DNS remain up and running	VitalQIP® has already reduced DNS problems related to factory control systems, ensuring that the factories can continue production without any outages. Once the VitalQIP® rollout has been completed the system will be much more reliable due to the redundancy achieved and the new software being used.
Move Wacker infrastructure to Microsoft Active Directory	DNS and IP management capabilities of VitalQIP® have allowed Wacker to easily move to Microsoft Active Directory.
Cut troubleshooting time and costs	Centralized management using VitalQIP® has reduced the time, cost and staff it takes to troubleshoot DNS & DHCP problems. Support-related travel to smaller sites has been dramatically reduced with the introduction of the runIP™ appliances that can be easily installed & supported remotely.
Build an infrastructure for the future	Because DNS, DHCP, and IP are stable and centrally managed, Wacker has a platform on which it can build new projects, including data mining, Wi-Fi networking, and unifying legacy with newer platforms.
Lower total cost of ownership with appliance remote servers.	The total cost of ownership with remote appliance based DNS and DHCP servers is lower compared to servers that were operated manually because hardware costs are less, initial setup is better, and ongoing resource needs are less.

About Wacker-Chemie GmbH

Wacker-Chemie GmbH is a globally operating chemical company headquartered in Munich, Germany. Its portfolio focuses on semiconductor technology, silicone chemistry, polymers and fine chemicals, as well as on polysilicon.

The Wacker Group posted sales of around EUR 2.5 billion in 2004. Germany accounted for 23 percent of these sales, Europe (excluding Germany) for 33 percent, and the Americas and Asia Pacific (plus the rest of the world) for 22 percent each. Wacker employs roughly 14,700 people spread over 20 production sites in Europe, the Americas and Asia, and in excess of 100 sales offices around the globe. Founded in 1914 by Dr. Alexander Wacker, the Wacker Group is 100 percent controlled by the Wacker family.

The Challenge: Centralize IP and DNS Management and Reduce Downtime without Increasing Costs

Wacker had dozens of production facilities and offices around the world connected in a Wide Area Network by a fully meshed IP VPN. But the company had no central means of managing IP, DNS, and DHCP on the network. Some departments and locations were managing IP manually using spreadsheets, and others were using Access databases. In addition, some individual departments and locations were running their own DNS and DHCP servers.

This led to a variety of problems, including IP address conflicts, device downtime, delays in production and delivery, and high troubleshooting costs. One serious problem related to the company's SAP enterprise requirements planning (ERP) system. Before products can be shipped from and to manufacturing plants, documents have to be printed at the plants to detail exactly what was being shipped, and to where it was being shipped. DNS problems sometimes caused problems with the SAP system, and the documents could not be printed. When this occurred, trucks were backed up at manufacturing plants, waiting to ship goods — they could not leave the plant until the documents were printed. The trucks had to wait until the DNS problems were solved, and SAP printing could proceed.

"We needed some way to find a solution to the IP conflicts and DNS problems we were having. Wacker was looking for a centralized solution to the problems." — Dr. Irina Weissenborn, Project Leader in Wacker's IT and Networking department

Wacker had another problem as well. It was becoming increasingly expensive and difficult to support an old DNS/DHCP infrastructure. There was also resource constraints deploying new servers and updating software in remote locations.

Wacker decided to move to Microsoft Active Directory. But its existing DHCP and DNS system could not meet the prerequisites required for deploying Active Directory — for example, handling dynamic DNS worldwide, accepting new DNS nomenclature and syntax, and managing multimaster domains.

Driving the Need for a New Solution

Wacker needed to find a way to manage IP, DNS, and DHCP that would do the following:

- **Resolve IP conflicts and DNS problems and increase uptime.** Domain outages, IP conflicts, and related troubles were causing problems throughout Wacker, leading to downtime and issues with shipping products from manufacturing plants. Wacker wanted to resolve those issues, and to make sure that similar problems would never cause a glitch in the manufacturing process.

- **Provide a balance between central and local control.** Because Wacker has so many offices and divisions spread out across the world, it needed to allow for a certain amount of local control over IP objects and DNS. But for maximum efficiency, it needed centralized control of company-wide guidelines and standards related to IP and DNS.
- **Provide more efficient troubleshooting.** Because there was no central control over IP, DHCP, and DNS, it was extremely difficult for Wacker to resolve problems with those resources. Often, the problem could not be resolved locally, and so the central IT department was called in to solve it. But because the central IT department had no control over the resources, it was difficult, costly, and time-consuming to resolve the problems.
- **Handle IP, DNS and DHCP for Active Directory.** Wacker was moving to Active Directory company-wide, and needed a solution that would integrate with Active Directory, and also offer a variety of features required for Active Directory to function properly, such as handling multimaster domains.
- **Provide an efficient appliance-based solution to configuring, deploying, updating and patching remote DNS and DHCP servers.** The consistent software and appliance-based approach reduced resource cost by making initial builds more consistent and patch installations significantly easier.
- **Hardware deployments, initial build and overall costs** were less with appliance-based DNS and DHCP configuration. Remote site installations were much more cost-efficient.

Wacker Chooses VitalQIP® Network Management

Software and the runIP™ Appliance

Wacker looked at a variety of solutions to the problem. It assembled an internal team of networking experts, who created a scorecard as a tool to determine which solution would be best. Twenty one different criteria were used for the scorecard. Additionally, Wacker interviewed customers already using the various systems, to see how well the systems worked in real-life situations.

VitalQIP® came out on top of the scorecard. And when Wacker interviewed people from companies using VitalQIP®, they reported that VitalQIP® had improved availability, that n3k and Lucent provided excellent support, that rollout and migration went smoothly, and that it performed well in terms of interoperability, especially with Microsoft Active Directory. As a result, Wacker chose VitalQIP®.

"VitalQIP® came out on top of our scorecard that rated the different solutions. And when I did a survey, I could not find any other system that compared with its management features." — Dr. Irina Weissenborn, Project Leader in Wacker's IT and Networking department

For installation and support, Wacker turned to n3k, a premier Lucent reseller for enterprise network management software. n3k worked closely with Wacker to deploy the complete solution which has significantly increased Wacker's ability to reliably deliver high availability, high performance IP network services. n3k analysed, consulted, deployed, trained, and maintained VitalQIP, the associated add-on modules and the runIP appliances, in one comprehensive delivery process.

Wacker purchased runIP™ Managed Appliances, to maximize the efficiency of, and extract the maximum benefit from, their VitalQIP® investment by addressing the need for an efficient, consistent solution to configuring, deploying, updating and patching the DNS and DHCP servers. In addition to reducing the cost of ownership for the remote servers the appliances have enhanced overall reliability and performance.

The Bottom Line for Wacker

VitalQIP® and runIP™ delivered on its promises to Wacker. It eliminated IP conflicts, DHCP issues, and DNS problems so that there are no longer issues with domain resolution. Wacker is using the combined solution to manage 32,000 IP addresses over several continents.

Downtime has been reduced. When migration is completed, there won't be any problems with SAP printing, and trucks no longer won't backed up at the factory. Wacker also knows that its factories will not face any downtime due to name resolution problems.

Troubleshooting time and expense has been significantly cut as well. The central IT department can now quickly remotely assess and fix IP problems at remote locations.

A number of small DHCP servers have been eliminated, and are now administered centrally, and as a result there are fewer DHCP outages. Centralized administration of IP, DNS, and DHCP has also led to cost savings for administration and auditing.

Wacker Looks to the Future

Because of the ability of VitalQIP® and runIP™ to manage IP, dynamic DNS and DHCP, Wacker can build an infrastructure capable of taking advantage of new networking advances and new applications. It is examining the possibility of deploying Wi-Fi networks, performing data mining, and is studying what it needs to do to take advantage of IPv6.

Market Leading Enterprise Software — Backed by World-Class Service and Support

VitalQIP® DNS/DHCP IP Address Management Software is a key component of the Lucent Technologies Network Management Software portfolio. Only Lucent offers multi-vendor, multi-technology, multi-service software solutions developed on extensible, programmable platforms, open APIs and advanced system architectures. These carrier-grade solutions provide the reliability, scalability and flexibility to deliver advanced services across current and next generation networks — while improving efficiencies, significantly reducing operating expenses and delivering the Quality of Service that today's enterprise users demand.

Integrated with VitalQIP, the runIP™ Managed Appliance from n3k eliminates the manual effort normally needed to achieve the tasks and the overhead frequently encountered in coordinating disparate groups such as configuration management, change control, server and security management. runIP brings the same high levels of efficiency to managing the VitalQIP remote servers and server software as VitalQIP brings to

managing the IP assets. This dramatically increases the ROI on VitalQIP. The appliances maximize the efficiency of, and extract the maximum benefit from, VitalQIP® investments by addressing the need for an efficient solution to configuring, deploying, updating and patching the DNS and DHCP servers.

To learn more, contact your Lucent Technologies sales representative or contact an authorized reseller or sales agent. You can also visit our web site at <http://www.lucent.com/vital> or call +1-888-426-2252. . For more information on n3k, visit <http://www.n3k.co.uk>.

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