

INFRARAY BICS

# Do You Know What's on Your Network?

Providing transparency and  
control over your IT infrastructure

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# Made in Germany\_

## ABOUT INFRARAY

Infraray was founded as Auconet in 1998 by a German engineering team with deep IT operation management know-how.

Today, our company provides you with customized, flexible solutions for network management, network security, IT infrastructure management, network automation and for controlling your business infrastructure.

## Certifications



ISO 9001:  
Quality assurance based on  
process optimization



ISO 27001:  
Maximum security  
and confidentiality



## No blind spots with X-Ray vision

Infrared BICS is a highly scalable solution that provides complete network visibility and helps companies manage large IT infrastructures. Much like an X-ray, BICS scans IT environments down to the smallest detail, offering comprehensive visibility and security through a centralized user interface.



# The Solution for Your IT Infrastructure\_

## THE BICS-SUITE

Are you ready for the next-generation ITOM platform? Infraray BICS offers a new and efficient approach to control large and heterogeneous corporate networks, with a modular system that allows you to discover, visualize, secure, and control your entire IT infrastructure.

Get ready for reduced TCO. Consistent availability. And seamless integrations.



## Pay for what you need

Thanks to its modular product structure, Infraray BICS ensures you only pay for what you actually need.

Hand-pick the modules and add-ons that provide you with the functions you need to optimally secure, manage and control your network.

The licensing flexibly adapts to the exact size of your network and your specific requirements. The fully scalable BICS solution offers vendor-independent implementation in a very short time, regardless of the size of your network.



Outstanding  
scalability



Implementation and  
discovery



Modular and  
flexible



Manufacturer-  
independent

## The BICS Licensing Model

The Infraray BICS licensing model is based on your pick of modules and optional add-ons as well as the scope of the network to be managed, including the number of network devices. Covering all these aspects, your customized BICS solution empowers you to remain flexible regarding the size and structure of your network.



## THE MODULES

# Flexible and Customizable, from Discovery to Inventory Management.



### BICS Core

Gain full visibility of your network: The BICS Core module provides you with a complete overview of all devices and endpoints in real time, including classification.



### Network Management

Efficiency meets performance: The module facilitates the management, monitoring and performance control of your IT network and its individual components.



### Network Security (NAC)

Protection against unauthorized access: The network security module prevents unauthorized end devices from penetrating your network via the network switches.



### Asset Management

Identification and real-time monitoring: The module manages all available information from devices in the network, including their type, name, IP address and subcomponents.



## MODULE: BICS CORE

# Gain Full Insight into Your Network

Experience having all relevant network data at your fingertips with the BICS Core module, your expert in discovery and visibility. BICS Core detects, visualizes, and classifies all connected devices and endpoints, regardless of the manufacturer, providing you with a complete picture of your IT network.

Regardless of the complexity of your network, BICS Core is flexible and easy to use: Dashboards and settings, e.g. for event and alert handling, can be individually configured to suit your needs.

### BICS Core module features

- Network device discovery
- Visualize connections across the entire network
- Flexible, customer-specific event and alert handling
- Configurable management dashboards
- Control using a modern, web-based user interface

## What the BICS Core Module Offers

### Discovery-Engine

Are you operating heterogeneous infrastructures? No problem. BICS Core will find and classify all network components and end devices in multiple stages. The solution also recognizes the connections between these devices, regardless of the manufacturer.

### Topology

With BICS Core, your entire infrastructure is visualized automatically – including the status of individual network areas and connections. This interactive topology serves as the central control interface. Illustrative elements, textures and more add detail to the visualization.

### Web GUI

Well-structured, efficient and user friendly: The BICS Suite is controlled centrally through a modern and powerful web-based user interface. The graphical display of network interfaces and device statuses facilitates simple, intuitive operation.

### Event- & Alarm-Engine

The central console collects and visualizes the statuses of all objects managed in BICS. A correlation engine aggregates multiple events or alarms into a defined system state.

### Dashboards

Different users and use cases have unique dashboard needs. With BICS Core, dashboards can be configured flexibly for management, statistics, or reporting.

### REST API

The BICS REST API provides access to all managed objects, such as devices, connections, endpoints, and assets. In addition to accessing attributes, the API also offers available actions on the interface. This allows BICS to be fully controlled remotely and easily integrated.

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### Add ons

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#### Event Database / Long-Term Archive

The Event Database is a secure place for storing audit-relevant events for a long period of time.

#### Data Manager / Automatic Import/Export

The Data Manager automatically configures and manages recurring data import and export jobs.



## MODULE: NETWORK MANAGEMENT

# Gain Full Control of Your System's Performance

Is everything in your IT network running according to plan? The BICS module for network management provides you with round-the-clock control over the performance and functionality of your network components.

From CPU utilization and bandwidth to operating temperature: BICS Network Management handles the administration and monitoring of your IT infrastructure and various device parameters.

### Network Management module features

- Manage IT networks
- Ensure the performance and functionality of network components
- Analyze various data streams and issue alerts when anomalies are detected
- Back up and manage switch configurations

# What the Network Management Module Offers

## Syslog-Analyzer

Receive, archive, analyze: The syslog analyzer examines incoming syslog messages from a wide range of sources and performs rule-based processing to generate messages or actions.

## Configuration Management

Back up, restore, compare, and check device configurations: Set regular backup intervals, verify that new versions contain all necessary entries, and compare versions with one another.

## VLAN Management

Complete view of all VLANs: The VLAN management function of the BICS Suite supports the administration of virtual local area networks on devices and ports, and visualizes the existing configuration.

## Wifi Topology

All access points managed by a WLAN controller, as well as the transitions between wireless and wired infrastructures are displayed graphically in the WiFi Topology.

## Real View

Whether it's switches, routers, firewalls, servers, virtual hosts, storage devices or UPS – benefit from a realistic device view that includes port visualization for statuses such as assignment, mode and connected endpoints.

## Network-Monitoring

When monitoring performance indicators, you can freely define measuring points, intervals and the corresponding alert rules. Alert function and data visualization ensure maximum usability.

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### Add ons

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## Netflow Traffic Analyzer

Qualitative and quantitative analysis of network traffic data collected using NetFlow technology.

## Advanced Automation

Script-based framework for supporting and simplifying recurring configuration tasks.



## MODULE: NETWORK SECURITY (NAC)

# Comprehensive Protection Against Unauthorized Access

Which access is justified, which attempt appears suspicious? The BICS module for network security centrally monitors your IT network and detects unauthorized and compromised devices quickly and reliably.

BICS Network Security also identifies unscheduled or unauthorized changes to device configurations and detects and prevents suspicious communication links.

### Network Security module (NAC) features

- Identify new, unauthorized and compromised devices
- Analyze the communication links of the devices
- Support Layer2 and network access control based on legitimation (802.1X)
- Identify unauthorized changes to device configurations
- Actions such as blocking ports according to user-defined rules
- User-defined VLAN management to isolate unauthorized devices

## What the Network Security Module (NAC) Offers

### VLAN Security

To control network access, end devices are assigned to specific VLANs based on their status – such as voice, quarantine, guest, or productive. Unused ports are placed in an isolation VLAN for added security.

### Port Security (PSM)

If a user attempts unauthorized access, BICS automatically triggers an alert and initiates actions based on preset security policies, such as automatically blocking the port.

### IEEE 802.1X Security

Secure authentication: To integrate simpler devices, such as IoT devices, the module provides the option to use Layer 2 network access control alongside the more restrictive and complex RADIUS-based 802.1X standard in a mixed mode.

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### Add ons

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### Emergency Shutdown

A separate instance to disable forced IEEE 802.1X access in the event of a fault or failure in the authentication infrastructure.



## MODULE: ASSET MANAGEMENT

# Real-Time Monitoring of Your IT/OT Inventory

The same applies to both information technology (IT) and operational technology (OT): You need to monitor your assets! The BICS module for asset management tracks all available information about devices in your network, including type, name, IP address, and subcomponents, throughout their entire lifecycle.

In addition, BICS Asset Management helps to ensure timely maintenance of IT/OT assets and track any changes made to them.

### Asset Management module features

- Manage IT/OT assets (online/offline), with a dynamic technical CMDB and agent-based inventory discovery
- Comprehensive data center visualization from the site level down to the rack system
- Manage all installed hardware and software components and their maintenance agreements
- Localize assets via the web server using geo data
- Ensure timely maintenance of IT/OT assets



## What the Asset Management Module Offers

### Asset Management

A basic configuration for managing all assets is provided for the customizable technical CMDB. This configuration can be tailored to specific customer requirements, such as defining new asset types or relationships between items. Asset Management has read access to individual network devices, enabling the module to automatically decompose complex devices into their individual components and map them in a component tree. Through this process, network components, fans, I/O modules, and other parts are converted into separate configuration items.

### Localization and Data Center Visualization

View your assets on a map: Entire data centers and various locations are visualized using geo data and Real View or OpenStreetMap. Geo coordinates are stored with the respective configuration items and inherited according to existing relationships. This allows you to model complete data centers: servers and switches in racks, racks in rooms, rooms on floors, floors in buildings, and buildings at company locations. The interactive map enables you to zoom through the hierarchies and visualize each level.

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### Add ons

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### Offline Map Server

A separate internal map server that does not require internet access and contains selected geographical maps.

## ARCHITECTURES

# A Solution That Flexibly Adapts to Your Needs



### Single-appliance architecture

The single-appliance architecture is designed for flat network topologies with up to 1,500 active network components.



### Multi-tenant architecture



Multi-tenant architectures enable multiple tenants to operate within a shared physical environment. In this setup, organizational units are integrated physically but remain logically separated from one another.



### Head/sub architecture



The head/sub architecture, a hierarchical administration method for shared BICS environments, is used to distribute loads or separate different locations. The head instance consolidates information from all connected sub-instances, integrating them logically while maintaining physical separation.





## Initial Steps

### Step 1: Installation

Download the Infraray BICS Suite as a preconfigured and fully functional virtual machine and install it in your productive environment.

### Step 2: Identification

Based on automatic discovery, BICS recognizes the accessible managed devices in an Internet Protocol network.

### Step 3: Classification

The active network components (e.g. routers, switches, firewalls, servers) are identified, characterized and classified.

### Step 4: Inventory taking

BICS generates a complete interactive topology of the network (inventory).

# Versatile. Secure. Customizable\_

## THE BICS SUITE IN ACTION

Infrared BICS helps companies across all industries to identify, secure, control, and manage their networks. Whether in manufacturing, the financial sector, or critical infrastructure, BICS is the right tool to help you understand and protect your IT infrastructure on-site, regardless of the size or complexity of your customer network.



# Counter Complexity with Flexibility\_

## USE CASES

Modern networks and corporate structures are becoming increasingly complex. BICS addresses this challenge with flexibility, adapting perfectly to the specific conditions of your network or application scenario.



## What should you do when a security audit reveals risks?

Healthcare providers and other critical infrastructure companies must meet stringent requirements. If a regular audit reveals inadequate access control, BICS can implement a vendor-independent Network Access Control (NAC) system, where each site operates its own secondary BICS instance (tenant) controlled by a primary instance at the main site. This setup provides each site with a comprehensive, real-time view of the network, ensuring that every IT asset and medical device is recorded and maintained in the BICS CMDB.

## How can large corporations get an overview of their entire network?

International companies and organizations with multiple locations face significant challenges in knowing, securing, and managing their entire network. The BICS head/sub architecture allows vast volumes of data to be distributed across several instances within a network, while still enabling centralized management and control. The multi-tenant architecture further divides data into smaller administrative units without sacrificing centralized real-time management.

## How does BICS integrate into an existing network management system and/or SOC?

Companies constantly face new challenges regarding IT security. To provide the best possible protection against threats, it's effective to optimize network security by combining multiple solutions. The REST API of Infraray BICS simplifies sharing recorded data with other solutions and importing information from other systems.

For example, BICS can regularly detect and record the entire network and alert other solutions whenever new or unknown devices are connected.



## What options does BICS introduce to your network?

No matter your network structure, Infraray BICS empowers you to discover, secure, manage, and control your network. With its flexible product structure and full scalability, BICS enables you to manage networks of any size.

As a comprehensive solution, BICS helps smaller companies gain critical insights into their networks quickly and easily, allowing for straightforward management.

BICS is ideal for heterogeneous networks, including multi-vendor environments. Its manufacturer-independent design allows you to manage everything from a single, centralized solution. BICS grows with your company and adapts flexibly to the evolving network status quo.



## How do large companies manage multiple locations?

BICS can also adapt to and manage complex global corporate structures through various architectures. For companies operating across multiple locations, keeping the network secure is crucial. Infraray BICS's head/sub architecture enables centralized control of site networks via a main instance while allowing specific rights to be assigned to sub-instances. This setup ensures that your central IT department maintains control, while individual locations retain full operational flexibility.

## Does BICS cater to the MSP industry?

As a managed service provider, your responsibility is to keep customer networks secure. BICS enhances your control by enabling you to manage multiple customer networks from a central main instance using a multi-tenant architecture. Each tenant is logically separated, ensuring no data can be transferred between instances.





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We integrated Infraray BICS  
into our complex infrastructure  
in just one week.

IT manager, hospital service provider

# Save Time, Effort and Costs

## REDUCED COSTS

Our Infraray BICS software suite automates IT network management, reduces manual work and cuts personnel costs by up to 75%. Features include hardware-independent IT network discovery, management, configuration of active network components and security. This enables companies to reduce costs while boosting their efficiency, productivity and profitability.



Our Infraray infrastructure control increases our security, drastically reduces our service costs, and gets our machine IT managers and hospital service providers back up and running faster, often without operator intervention

IT Security Engineer · Water Supply Control System,  
Berliner Wasserbetriebe

<b>WITHOUT</b> Infraray BICS	Estimated working hours/ administrator per year [in hours]	Estimated personnel costs
Manufacturer-independent discovery	100	€4,000
Managing the network	2100	€80,000
Configuration of all active network components	240	€9,000
Ensure network security	800	€30,000
		<b>€123,000</b>

<b>WITH</b> Infraray BICS	Estimated working hours/ administrator per year [in hours]	Estimated personnel costs
Manufacturer-independent discovery → BICS Core module	10	€400
Managing the network → BICS Network Management module	630	€24,000
Configuration of all active network components → BICS Config. Management function	60	€2,300
Ensure network security → BICS Network Security module	80	€3,000
		<b>€29,700</b>

<b>SAVINGS</b> through the use of Infraray BICS		
Savings for manufacturer-independent discovery of the entire network: → Using the BICS Core module	per year	€3,600
Savings for managing the previously discovered network → Using the BICS Network Management module	per year	€56,000
Savings for the configuration of active network components → Using the BICS Config. Management function	per year	€6,700
Savings for securing the entire network → Using the BICS Network Security module	per year	€27,000
Infraray BICS licensing fees	per year	- €20,000
<b>Total</b>	per year	<b>€73,300</b>

Sample cost savings based on the following assumptions and figures

- network with approx. 1,000 IT assets
- One FTE 2080 hours/year
- Average administrator hourly rate of approx. 38€/hour
- Amounts rounded retrospectively

# The Right Solution for Everyone\_

## ROLES AND RESPONSIBILITIES

Each industry has its own specific requirements and challenges. Whether it's critical infrastructure enterprises, healthcare organizations, or the IT environments of government agencies, Infraray provides a comprehensive solution tailored to your unique needs.



## For Users: simply more options

Are you looking for a comprehensive network management solution for your live environment? Do you need a centralized interface, intuitive dashboards, and more options to reduce workloads?

- ✓ Discovery of all network and end devices
- ✓ A central, user-friendly interface
- ✓ Fast & reliable event and alert handling
- ✓ Intuitive user-optimized dashboards
- ✓ Detection of network devices and connections

## For Teams: full transparency and improved performance

Are you looking for a comprehensive IT infrastructure solution for your team? With a centralized interface and intuitive dashboards that boost your team's performance? Improved reporting and compliance you can rely on?

- ✓ Warning messages about newly connected devices
- ✓ Monitoring of various device parameters
- ✓ Functions for hardware and software inventory
- ✓ Management of all available information of devices in the IT network

## For Decision-Makers: cost-savings, accurate budgeting, reliability

You want to save costs with a fully scalable IT infrastructure solution? And you expect to gain full control and transparency over the entire IT infrastructure?

- ✓ Achieve cost savings of up to 60%
- ✓ Easier, faster upgrades and configuration changes, supports precise budget planning
- ✓ Internal costs allocated with pinpoint precision
- ✓ High scalability, flexible deployment architecture
- ✓ High employee satisfaction in the teams and across the department Improved reporting system for your teams



In just two days,  
the central  
Infraray BICS  
solution discovered  
our entire data  
network, which  
comprises over  
350,000 ports!

Team Leader Central IT Services, DB Systel/Deutsche Bahn



Senior Engineer  
Advanced  
Research and Development

# Put Infraray BICS to the Test

## FREE TRIAL VERSION

Infraray BICS allows you to efficiently manage and monitor your network technology, giving you complete control over your IT infrastructure. This comprehensive ITOM solution offers deep insights into your network environment. Try BICS today with the free trial version!

With our free demo version,  
you will get this and more:

- ✓ Discovery of all network and end devices
- ✓ A central, user-friendly interface
- ✓ Fast & reliable event and alert handling
- ✓ Intuitive user-optimized dashboards
- ✓ Detection of network devices and connections



[https://www.infraray.com/  
request-demo/?lang=en](https://www.infraray.com/request-demo/?lang=en)



## C O N T A C T

Do you have any  
questions? Don't hesitate  
to get in touch with us!

Would you like to know more about Infraray BICS,  
its modules and areas of application?

Feel free to reach out to us –  
we are happy to answer all your questions!

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# Legal Notice\_

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