



DREAMLAB
TECHNOLOGIES

Quotation: **Infection Proxy Project 1**

Quoted for: **Gamma International GmbH**

Gamma International GmbH

Mr. Thomas Fischer
Baierbrunnerstr. 15
D-81379 Munich

Bern, December 13, 2010

Quotation: Infection Proxy Project 1

Quotation number: 3104351.2

Dear Mr. Fischer

Many thanks for your interest in our services.

We are pleased to submit our offer for the Infection Proxy Project 1.

This offer shows you in brief the individual steps of our planned procedure as well as the costs for the individual offer options. Please take note that this offer is heavily based on assumptions and preconditions as the network analysis has not yet yielded in the results necessary to be able to quote without assumptions. However this version reflects the feedback received in the last days thus leading to a final offer. Please take note that all servers in this offer are non-clustered standalone systems; however Dreamlab recommends that at least all network-relevant systems be run redundantly as a cluster.

Please call us should you have questions or comments regarding this offer.

We are glad to be able to support you with this project.

Yours sincerely

Nicolas Mayencourt
CEO
Dreamlab Technologies AG

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1. Basics

This offer arose as a result of an inquiry by Gamma International and a subsequent collective visit in Turkmenistan, as well as in consequence of the results of the current and ongoing network analysis. Unfortunately the network analysis is not yet terminated, therefore this quotation is heavily based on assumptions and preconditions.

Furthermore this offer is based on a request of Gamma International of Dec 13th for a reduced offer with respect to Offer 3104351.1 "Infection Proxy Project" of October 11th 2010 which contained an offer for the Fixed-, the TMCCell and the MTS network of Turkmenistan.

1.1 Starting position and Objectives

After an inquiry by Gamma International, Dreamlab Technologies (Nicolas Mayencourt) and Gamma International (Thomas Fischer) travelled to Turkmenistan. Preliminary investigations were made there concerning a network analysis. This network analysis has in the meantime progressed a bit, and allows us, with assumptions and preconditions, to submit a project proposal.

The original aim of the quotation was to cover all Turkmen networks with the infection proxy functionality, fixed and mobile networks alike. This offer here is reduced to the Turkmentel Networks (Fixed and TMCCell Mobile) only. The LEA/LEMF will be able to operate and inspect this system through the Management Server as well as the Management Client, both of which will be established within the LEA.

At the end of the project, the persons responsible should be trained in using the systems.

After the conclusion of the project, Turkmenistan will possess an Infection Proxy Infrastructure and Solution applicable nationwide for all international traffic the Turkmentel and TMCCell networks.

In this offer, all servers are offered as standalone systems in accordance with the request of Gamma International. This does not comply with the best practices of Dreamlab Technologies, which envisage a redundant implementation as a cluster for at least all systems that are network-related and involved in the infection process.

2. Qualifications of Dreamlab

Since 1998, Dreamlab Technologies AG supports economical, governmental and educational institutions and organizations. Our main activities are strategical consulting and education as well as conception, realization, integration, operation and maintenance of IT Solutions based on Open Standards.

Since 2003, Dreamlab officially represents the Institute for Security and Open Methodologies (ISECOM) in Switzerland, France and Germany. ISECOM is an international non-profit organization that develops Open Standards for IT Security and Business Integrity Testing. It is the editor of the Open Source Security Testing Methodology Manual (OSSTMM), the most widely spread standard for Information Security Testing. Nicolas Mayencourt, Dreamlab's CEO, is a member of the Board of Directors of ISECOM and presides its units Business Development and Academic Alliance.

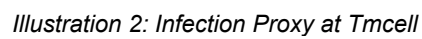
Dreamlab is the only education partner of ISECOM in Switzerland, France and Germany and it offers OSSTMM certification courses for Security Professionals in collaboration with ISECOM and an international network of partner organizations and universities. In cooperation with the University of Applied Science of Berne, Dreamlab launches Switzerland's first OSSTMM Certification Courses. Dreamlab also provides a Hacker Highschool to help young people to get aware of responsible handling of IT Technologies.

Through close partnership with ISECOM and an active collaboration in setting new standards, Dreamlab is always up to date and even ahead of its time. Being a honorary member of the security section of the Swiss Informatics Society, a member of OpenTCPA Research Group and of the World Wide Web Consortium (W3C) means being part of the newest developments in IT Security. Within W3C, Dreamlab is responsible for the Xforms Standard and it is an active part of other working groups (e. g. HTML) to integrate security knowledge into processes of creation and maintenance of future Standards. Customers of Dreamlab profit directly from this body of knowledge, from the contact network and from the insight into developments and future marketplaces.

Dreamlab's staff consists of skilled OSSTMM professionals who constantly observe the Security Branch and have access to the newest developments and trends. To be able to advise their customers the best, they exchange knowledge on the most important international IT Security Conferences and continually educate themselves.

Since 2005 Dreamlab has developed a Software-Suite for Lawful Interception and Data retention and successfully implemented the solution at various customers in Switzerland and internationally. The Dreamlab LI-SW-Suite is unparalleled with regards to security, performance, flexibility and price on the market. The software-components are under permanent development, are compliant with the common ETSI-standard and cover most of the interception requirements on all relevant technologies of IP-networks.

Illustration 1: Visualised network topology with Infection Proxies



3.2 Project Management

Project management must be assigned for project planning, communication, and co-ordination; this will co-ordinate all tasks that arise, such as in particular co-ordination and communication within the teams, co-ordination of on-site work, collaboration with the parties involved, ordering and monitoring of duties to co-operate, guaranteeing of the provision of any existing dependencies, hardware assembly, factory testing, the provision of all project-related documentation such as system and instruction manuals.

3.3 Devices and Infrastructure

Before on-site installation, the hardware will be assembled at Dreamlab Technologies and equipped with all software components. Additionally, a detailed burn-in test will be undertaken before shipping. The systems will be delivered to the desired address in principle ready-to-use. Dreamlab will deliver the following hardware and software components for the project and its three use cases:

3.3.1 Fixnet

Infection Proxy

The infection proxy is the actual core-component of the system; through them the entire traffic of the target is conducted after the target identification. One non-accelerated infection proxy with 2 copper based dual port network adaptors with 1 Gbit/s and automatic bypass function will be used.

Radius Probes

The authentications of the targets are monitored through the radius probes, so that the infection proxy process can be initiated. One radius probe with two 4-port Gigabit copper network interfaces will be used to monitor and intercept the accesses from the fixnet, as well as two 1 Gigabit ethernet TAP devices.

3.3.2 Tmcell

Infection Proxy

The infection proxy is the actual core-component of the system; through them the entire traffic of the target is conducted after the target identification. The TMCell network is basically divided in a Huawei and a NSN domain, therefore we will need to double the infrastructure involved to cover all parts of the mobile networks. One domain consists of a non-accelerated infection proxy with 2 singlemode fiber based dual port bypass network adaptors with 1 Gbit/s and the other domain consists of a non-accelerated infection proxy with 2 copper based dual port bypass network adaptors with 1 Gbit/s.

Identification Probe

The identification probe will monitor and report the correlation between IMSI, TIMSI, MSISDN and the assigned IP address in order to identify mobile users. One domain consists of an identification probe with two dual-port Gigabit singlemode fiber network interfaces as well as two 1 Gigabit Fiber TAP devices, the second domain consists of an identification probe with two dual-port Gigabit copper network interface as well as two 1 Gigabit ethernet TAP devices. Both will be used to monitor and intercept the accesses from the Tmcell network .

3.3.3 Management Server

A management infrastructure will be applied for managing the infection proxies; this consists of a standard server with management software and a client PC (Gamma-GUI) to administer the solution.

3.4 Training

Persons responsible will receive system training, including all necessary training documentation adapted for the client system and in English.

3.5 System Care

Support and maintenance covers all activities in support of the client during operation of the installed systems and in case servicing is needed.

3.5.1 On-site Maintenance in Turkmenistan

The SLA can be fulfilled without remote access and in the scope of an annual visit at the client's location, during which updates and tests can be carried out, or open questions can be discussed with the customer. This can occur every year, every semester, or every quarter. Since this is very much a security-related and sensitive infrastructure, which is located in a public network, Dreamlab advises that the maintenance work be undertaken as frequently as possible (every quarter, if possible).

3.6 Co-ordination Meetings

1x per year, and in addition to the system maintenance, a co-ordination meeting with the client takes place on-site, during which the needs and requirements of the client can be discussed, and where relevant information, news, and current trends can be exchanged on a management level.

4. Limitations and Preconditions

This offer is made with the following limitations and preconditions. The following preconditions must be fulfilled by Gamma International GmbH (hereinafter the client).

I. The client will forego all assertion of claims on account of any possible adverse effects and/or damages that may arise in connection with the assignment. Reserved are damages that arise through serious negligence or deliberate actions or omissions by the staff of Dreamlab Technologies.

II. The current approach covers all mobile and fix network of the country of Turkmenistan. Because vital data is still not a 100% certain following possibly project and price relevant assumptions, limitations and preconditions apply to this offer.

III. Turkmentel Fixnet

We refer positioning to the layout NWGraph with the Cartesian coordinates and the two network traces (Turkmentel.pcap, Turkmentel2.pcap). We assume that the traffic sample Turkmentel.pcap has been taken on the links between 2950 (D6) and 2960 or NAT in (C/D 3).

- a) All NATed customer traffic flows through the links between 2950 (D6) and 2960 or NAT in (C/D 3)
- b) All non NATed customer internet traffic flows through the link 2950 (D6) and Satgate (A7).
- c) All dynamic IP's are solely provisioned via RADIUS.
- d) All RADIUS traffic flows through the link between 2950 (D6) and 2960 or NAT in (C/D 3)
- e) The only RADIUS dialog that is provisioning dynamic IP addresses is shown in the Turkmenistan.pcap in packet number 7 and 8. The property to set IP's is "FRAMED-IP-Address". A sample for a failed Access-Request is documented in packet 5 and 6 in the same tracefile.
- f) If there are more RADIUS dialog variants they will be documented and outlined by the provider.
- g) We assume there is no other or more dynamic IP provisioning mechanisms in place.
- h) All fixed IP address traffic flows through the link 2950 (D6) and Satgate (A7).
- i) All links are based on copper medium and support 10/100/1000 mbs ethernet.

We have found non internal source IP addresses in the Turkmentel.pcap sample and need an explanation how this is possible.

Please do precisely document any additional information, differences, amendments or comments.

IV. Turkmentel Cell

The Turkmentel Cell network delivers mobile IP services and is splitted in a Huawei and a NSN domain. Both domains maintain one active and one passive link in between the SGSN and the GGSN

Huawei domain:

- a) The Huawei domain's network is based on copper 10/100/1000 mbs ethernet media
- b) The dynamic IP's of targets are provisioned on the Gn interface. The traffic sample TMCCell_Huawei_SGSN-Gn-1_active.pcap contains all provisioning mechanisms.
- c) The mechanism for provisioning is showed in file TMCCell_Huawei_SGSN-Gn-1_active.pcap in packet 1548 and 1560. The unique target identifier can be the IMSI or the MSISDN (phone number). In this sample the mobile target receives the IP address 172.16.190.73.
- d) All subsequent mobile IP traffic from the target is as well flowing through the same Gn interface found in TMCCell_Huawei_SGSN-Gn-1_active.pcap .
- e) The same mobile IP traffic flows through the Gi interface found in TMCCell_Huawei_GGSN-Gi- 2_active.pcap without GTP encapsulation.
- f) All mobile IP traffic is flowing through the Gn and Gi interfaces on the active and upon failure the passive link.
- g) The TMCCell_Huawei_SGSN-Gn-1_active.pcap traffic sample has been sniffed on the links between the SGSN and the GGSN
- h) The TMCCell_Huawei_GGSN-Gi-2_active.pcap traffic sample has been sniffed on the links between the GGSN and nsnfw01 and nsnfw02.

NSN domain:

- a) The NSN domain's network is based on fiber 1000 gbs ethernet media
- b) The dynamic IP's of targets are provisioned on the Gn interface. The traffic sample TMCCell_NSN_01-09Gn-1.pcap contains all provisioning mechanisms.
- c) The mechanism for provisioning is showed in file TMCCell_NSN_01-09Gn-1.pcap in packet 532 and 533. The unique target identifier can be the IMSI or the MSISDN (phone number). In this sample the mobile target receives the IP address 172.19.8.243.
- d) All subsequent mobile IP traffic from the target is as well flowing through the same Gn interface found in TMCCell_NSN_01-09Gn-1.pcap.
- e) The same mobile IP traffic flows through the Gi interface found in TMCCell_NSN_01-09Gi-1.pcap without GTP encapsulation.
- f) All mobile IP traffic is flowing through the Gn and Gi interfaces on the active and upon failure the passive link.
- g) The TMCCell_NSN_01-09Gn-1.pcap traffic sample has been sniffed on the links between the SGSN and the GGSN
- h) The TMCCell_NSN_01-09Gi-1.pcap traffic sample has been sniffed on the links between the GGSN and nsnfw01 and nsnfw02.

5. Co-operation Duties

We assume the following co-operation and project support on the part of Gamma International GmbH (hereinafter the client):

- I. The client will make available document templates and information necessary for the execution of the work.
- II. The client will inform parties involved in the project about the upcoming work.
- III. The client will organise all necessary information, accesses and entries that are required for the workflow of the project.
- IV. The client will organise meetings and establish contact with the parties involved.
- V. The client will make available the network connections and the network between the servers and the sites.
- VI. The client will make available sufficient network connections for the delivered components.
- VII. The client will make available housing space for the delivered turn key solutions (Racks).
- VIII. The client will organise the transport of staff and material.
- IX. The client will organise all additional test equipment for the FAT / E2E tests.

6. Costs

Quotation number: 3104351.2

6.1 Services provided by Dreamlab Technologies

Item	Description	Unit Price	Number	Net Value CHF
001	Network analysis A detailed network analysis will be compiled, which shall provide the following information: <ul style="list-style-type: none">•Knowledge about the local provider topology•Knowledge about the target-identification possibilities•In-depth knowledge about the protocol stacks employed•Solution strategy for implementation•Documentation about the OSS BSS landscape	1'800.00	18 days	32'400.00
002	Project Management and Documentation Project Management for the co-ordination of all work that arises, production of all project-related documentation	1'600.00	30 days	48'000.00
003	Installation of hardware and software The infection proxies, radius probes, and management infrastructure will be assembled, configured, and subjected to a detailed burn-in test at Dreamlab	1'440.00	40 days	57'600.00
004	On site assembly in Turkmenistan All the equipment will be shipped to Turkmenistan. The assembled system will be thoroughly tested and handed over to the client.	1'440.00	30 days	43'200.00
005	Training Persons responsible will receive system training, including all necessary documentation adapted for the client system and in English (3 days on site, 2 days preparation)	1'800.00	5 days	9'000.00
Total	Services provided by Dreamlab Technologies			190'200.00

Prices do not include VAT and shipping and are in CHF.

6.2 Fixnet

6.2.1 General HW-Components

Item	Description	Unit Price	Number	Net Value CHF
001	SERVER RACK 22U HP Rack 10622 G2 22U	7'000.00	1	7'000.00
002	SWITCH Cisco SGE2000 4xSFP 1000/10/100 managed 24 Port	1'520.00	2	3'040.00
	SFP SFP (cooper and fibre) Module for the switch	500.00	8	4'000.00
003	HP UPS R/T3000 3.5 x 17.5 x 25 inches / 8.9 x 44.5 x 63.5 cm Serial Ports Standard DB-9 and USB Ports Optional possible battery extension.	3'700.00	1	3'700.00
004	1u keyboard mouse video	3'885.00	1	3'885.00
005	Cables / additional Server Rack montage material	500.00	1	500.00
Total	Fixnet			22'125.00

Prices do not include VAT and shipping and are in CHF.

6.2.2 iproxy

Item	Description	Unit Price	Number	Net Value CHF
001	HP DL 380 Generation 7 (G7) With 3x 146GB SAS HDs, 6x2GB PC3-RAM, DVD, Red. PS. ILO.Package (With guarantee extension for 5 years)	15'355.00	1	15'355.00
002	Quad Port Copper 1 Gigabit Ethernet PCI Express Server Adapter with Bypass Function	5'667.40	2	11'334.80
003	Dreamlab Network Stack	30'000.00	1	30'000.00
004	LIOS-ADMF Client	15'000.00	1	15'000.00
Total	Fixnet			71'689.80

Prices do not include VAT and shipping and are in CHF.

6.2.3 Radiusprobe

Item	Description	Unit Price	Number	Net Value CHF
001	HP DL 380 Generation 7 (G7) With 3x 146GB SAS HDs, 6x2GB PC3-RAM, DVD, Red. PS. ILO.Package (With guarantee extension for 5 years)	15'355.00	1	15'355.00
002	Intel Pro/1000 PT Quad Port LP Server Adapter	606.25	2	1'212.50
003	Datacomsystems TAP 10/100/1000 Ethernet Tap Rack Mount 19"	1'650.00 136.25	2 2	3'300.00 272.50
004	Dreamlab Out-of-band Radius-Identification Probe	25'000.00	1	25'000.00
005	LIOS-ADMF Client	15'000.00	1	15'000.00
Total	Fixnet			60'140.00

Prices do not include VAT and shipping and are in CHF.

6.3 Tmcell

6.3.1 General HW-Components

Item	Description	Unit Price	Number	Net Value CHF
001	SERVER RACK 22U HP Rack 10622 G2 22U	7'000.00	1	7'000.00
002	SWITCH Cisco SGE2000 4xSFP 1000/10/100 managed 24 Port SFP SFP (cooper and fibre) Module for the switch	1'520.00 500.00	1 4	1'520.00 2'000.00
003	HP UPS R/T3000 3.5 x 17.5 x 25 inches / 8.9 x 44.5 x 63.5 cm Serial Ports Standard DB-9 and USB Ports Optional possible battery extension	3'700.00	1	3'700.00
004	1u keyboard mouse video	3'885.00	1	3'885.00
005	Cables / additional Server Rack montage material	500.00	1	500.00
Total	Tmcell			18'605.00

Prices do not include VAT and shipping and are in CHF.

6.3.2 iproxy

Item	Description	Unit Price	Number	Net Value CHF
001	HP DL 380 Generation 7 (G7) With 3x 146GB SAS HDs, 6x2GB PC3-RAM, DVD, Red. PS. ILO.Package (With guarantee extension for 5 years)	15'355.00	2	30'710.00
002	Dual Port FIBER SM 1 Gigabit Ethernet PCI Express Server Adapter with Bypass Function	3'100.00	2	6'200.00
003	Dual Port Copper 1 Gigabit Ethernet PCI Express Server Adapter with Bypass Function	2'833.70	2	5'667.40
004	Dreamlab Network Stack	30'000.00	2	60'000.00
005	LIOS-ADMF Client	15'000.00	2	30'000.00
Total	Tmcell			132'577.40

Prices do not include VAT and shipping and are in CHF.

6.3.3 Identification probe

Item	Description	Unit Price	Number	Net Value CHF
001	HP DL 380 Generation 7 (G7) With 3x 146GB SAS HDs, 6x2GB PC3-RAM, DVD, Red. PS. ILO.Package (With guarantee extension for 5 years)	15'355.00	2	30'710.00
002	Quad Port Fiber Gigabit SFP (LX)	3'100.00	2	6'200.00
003	Intel Pro/1000 PT Quad Port LP Server Adapter	606.25	2	1'212.50
004	Datacomsystems TAP 10/100/1000 Ethernet Tap Rack Mount 19"	1'650.00 136.25	2 2	3'300.00 272.50
005	Datacomsystems TAP 10/100/1000 FIBER Tap Rack Mount 19"	1'650.00 136.25	2 2	3'300.00 272.50
006	Dreamlab Mobile Out-of-band Identification Probe	30'000.00	2	60'000.00
007	LIOS-ADMF Client	15'000.00	2	30'000.00
Total	Tmcell			135'267.50

Prices do not include VAT and shipping and are in CHF.

6.4 Management Infrastructure

6.4.1 General HW-Components

Item	Description	Unit Price	Number	Net Value CHF
001	SERVER RACK 22U HP Rack 10622 G2 22U	7'000.00	1	7'000.00
002	SWITCH Cisco SGE2000 4xSFP 1000/10/100 managed 24 Port SFP SFP (cooper and fibre) Module for the switch	1'520.00 500.00	1 4	1'520.00 2'000.00
003	HP UPS R/T3000 3.5 x 17.5 x 25 inches / 8.9 x 44.5 x 63.5 cm Serial Ports Standard DB-9 and USB Ports Optional possible battery extension	3'700.00	1	3'700.00
004	1u keyboard mouse video	3'885.00	1	3'885.00
005	Cables / additional Server Rack montage material	500.00	1	500.00
Total	Management Infrastructure			18'605.00

Prices do not include VAT and shipping and are in CHF.

6.4.2 Management Infrastructure Server, PC, Monitors and Software

Item	Description	Unit Price	Number	Net Value CHF
001	HP DL 380 Generation 7 (G7) With 3x 146GB SAS HDs, 6x2GB PC3-RAM, DVD, Red. PS. ILO.Package (With guarantee extension for 5 years)	15'355.00	1	15'355.00
002	HP Compaq Z400 Elite Business PC Xen six core 3,33 GHz, 2x 2GB RAM, 500GB HD, Keyboard, Mouse, including Prices for Pos 003-005 (With guarantee extension for 5 years for the PC)	5'100.00	1	5'100.00
003	24 TFT-monitor 24"-TFT (included in position 002)	n.a.	1	n.a.
004	24 TFT-monitor 24"-TFT (included in position 002)	n.a.	1	n.a.
005	24 TFT-monitor 24"-TFT (included in position 002)	n.a.	1	n.a.
006	LIOS-ADMF Server	30'000.00	1	30'000.00
Total	Management Infrastructure			50'455.00

Prices do not include VAT and shipping and are in CHF.

6.5 Monitoring and Alarming Option

Item	Description	Unit Price	Number	Net Value CHF
001	HP DL 380 Generation 7 (G7) With 3x 146GB SAS HDs, 6x2GB PC3-RAM, DVD, Red. PS. ILO.Package (With guarantee extension for 5 years)	15'355.00	1	15'355.00
002	Nagios Munin Installation Dreamlab monitoring centre Server Software Setup <ul style="list-style-type: none"> •Installation of Nagios platform •Installation of Munin platform •Installation of Nagvis visualisation platform •Webserver / Web interface configuration •Nagios Server configuration •Nagvis visualisation Server configuration •Munin Server configuration Client Agent Software Setup <ul style="list-style-type: none"> •Installation and configuration of the Nagios agents on to the client system •Installation and configuration of the Munin agents on to the Client system Customized Client Agent Checks <ul style="list-style-type: none"> •Writing customized Nagios Agent Checks •Writing customized Munin Agent Checks Alerting <ul style="list-style-type: none"> •Installation / configuration SMS / Mail Alerting Functionality Testing and Fine Tuning <ul style="list-style-type: none"> •Nagios Server Integration and functional Tests •Munin Server Integration and functional Tests Customizing for the client <ul style="list-style-type: none"> •Alerting and monitoring infrastructure adjusting to its clients wish 	72'000.00	1	72'000.00
003	Gsm modem alarming path	1'000.00	2	2'000.00
004	Customising of alerting rules	1'800.00	3	5'400.00
Total	Monitoring and Alarming Option			94'755.00

Prices do not include VAT and shipping and are in CHF.

6.6 System Maintenance (On-site)

Item	Description	Unit Price	Number	Net Value CHF
001	On-site system maintenance Loading of updates, system tests, troubleshooting, depending on client's wishes 1, 2, or 4 times per year (10 days per call-out)	1'600.00	10 days	16'000.00
Total	System Maintenance / per call-out (On-site variant)			16'000.00

Prices do not include VAT and shipping and are in CHF.

6.7 On-site Co-ordination Meetings

Item	Description	Unit Price	Number	Net Value CHF
001	Co-ordination Meetings Annual co-ordination meeting with the client, including exchange of information at management level, depending on client's wishes 1,2, or 4 times per year (3 days per call-out)	1'800.00	3 days	5'400.00
Total	Co-ordination meetings per call-out			5'400.00

Prices do not include VAT and shipping and are in CHF.

6.8 Software Maintenance

The software maintenance entitles the client to all bug fixes, updates and new releases for the software offered by Dreamlab; it is valid for one year at a time.

Item	Description	Unit Price	Number	Net Value CHF
001	Dreamlab Network Stack Software maintenance, entitles the client to all updates. Price per licence and per year.	6'000.00	3	18'000.00
002	LIOS-ADMF Client Software maintenance, entitles the client to all updates. Price per licence and per year.	3'000.00	6	18'000.00
003	LIOS-ADMF Server Software maintenance, entitles the client to all updates. Price per licence and per year.	6'000.00	1	6'000.00
004	Dreamlab Out-of-band Identification Probe Software maintenance, entitles the client to all updates. Price per licence and per year.	5'000.00	1	5'000.00
005	Dreamlab Mobile Out-of-band Identification Probe Software maintenance, entitles the client to all updates. Price per licence and per year.	6'000.00	2	12'000.00
Total	Software Maintenance			59'000.00

Prices do not include VAT and shipping and are in CHF.

7. Order form quotation no. 3104351.2

Details for the ordering of the service: „Infection Proxy Project 1“

	Description	Net worth CHF
	Network analysis	32'400.00
	Project Management and Documentation	48'000.00
	Installation of hardware and software	57'600.00
	On Site assembly in Turkmenistan	43'200.00
	Training	9'000.00
	Fixnet	153'954.80
	Tmcell	286449.90
	Management Infrastructure	69'060.00
	Monitoring and Alarming Option	94'755.00
	System Maintenance / per call-out (On-site variant)	16'000.00
	Co-ordination meetings per call-out	5'400.00
	Software Maintenance	59'000.00
	Total	874'819.70

Please fill in as appropriate.

Conditions

Prices

Prices do not include VAT and shipping costs and are in CHF.

Expenses

Travel expenses are not included in the offer.

Payment Conditions

30% down payment, 30% at time of delivery, 20% after installation, and 20% after the final acceptance of the end-user/customer, in accordance with the co-operation agreement.

Deadlines

The precise dates have yet to be defined.

Validity of this quotation

This offer has a validity of 8 weeks from the date of issuance.

Acceptance of the General Terms and Conditions and Co-operation Duties

Locality	Date	Person responsible Gamma International GmbH
		Name:
		Signature:

Please fill in details in capital letters.

8. Conditions

8.1 Prices

Prices do not include VAT and shipping costs and are in CHF.

8.2 Expenses

Travel expenses are not included in the offer.

8.3 Payment Conditions

30% down payment, 30% at time of delivery, 20% after installation, and 20% after the final acceptance of the end-user/customer, in accordance with the co-operation agreement.

8.4 Dates

The precise dates have yet to be defined.

8.5 Validity of the offer

This offer has a validity of 8 weeks from the date of issuance.

8.6 Attachments

General terms and conditions (GT&C) of business of Dreamlab Technologies AG.

9. Contact

9.1 Client

Gamma International GmbH	Address	Baierbrunnerstr. 15
	Postal code and city	D-81379 Munich

Contact person – commercial

Forename	Thomas	Surname	Fischer
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Function	
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Phone	+49 89 242 0918-0	Mobile	+49 172 266 1654
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E-Mail	tf@gamma-international.de
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9.2 Service provider

Dreamlab Technologies AG	Address	Monbijoustrasse 36
	Postal code and locality	CH-3011 Bern

Contact person – commercial

Forename	Nicolas	Surname	Mayencourt
----------	---------	---------	------------

Function	CEO
----------	-----

Phone	+41 (0)31 398 66 66	Mobile	
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E-Mail	nicolas.mayencourt@dreamlab.net
--------	--

Contact person – technical

Forename	Felix	Surname	Merz
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Function	Senior Consultant
----------	-------------------

Phone	+41 (0)31 398 66 66	Mobile	+41 79 223 71 75
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E-Mail

Felix.merz@dreamlab.net

10. Attachment

10.1 Devices and Infrastructure

10.1.1 HP DL 380 Generation 7 (G7) with 3x 146GB HDs, DVD, Red. PS. ILO.



Processor	2x Intel® Xeon® Processor X5650 (2.6 GHz, 8MB L3 Cache) six-core
Cache Memory	8MB (1 x 8MB) Level 3 cache
Memory	12 GB (6 x 2 GB) PC3-10600R (DDR3-1333) Registered DIMMs
Network Controller	Two BCM5709C with dual-port Gigabit Server Adapters
Storage Controller	HP Smart Array P410i/102MB with BBWC
Drives	HP Slim SATA DVD RW drive
Controller	Smart Array P410i Controller with Zero Memory (Raid 0/1/1+0)
Internal Storage	Standard: 8 SFF SAS/SATA HDD Bays Optional: 16 SFF SAS/SATA HDD Bays
Optical Drive	HP Slim SATA DVD RW drive
Power Supply	2x 750W Hot Plug Power Supplies
Fans	6x (N+1 redundancy standard)
Form Factor	Rack (2U), Height 3.38-inch (8.59 cm); Width: 17.25 (44.54 cm); Depth: 27.25 inches (69.98 cm)
Accessory	Without upgrade elements and rack mount kit

10.1.2 Silicom PEG2BPFi6-LX - Dual Port Fiber (SR) 1 Gigabit Ethernet PCI Express Server Adapter



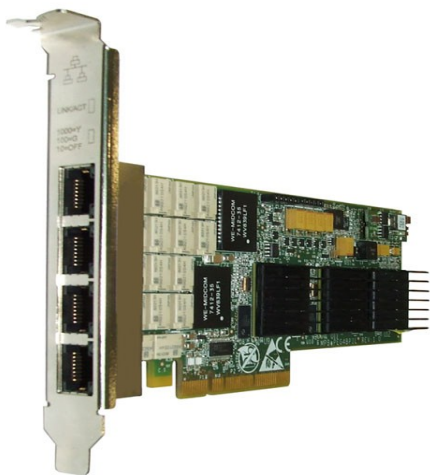
Interface Standard	PCI-Express Base Specification Revision 2.0 (5 GT/s)
Board Size	Low profile add-in card: 167.65mm X 68.91mm (6.60"X 2.713")
PCI Express Card Type	X8 Lane
PCI Express Voltage	+12V ± 15%
Controller	Intel 82576EB
Weight	200g (7.055Oz)
Power Consumption	6.6 W, 0.55 A at 12V: Typical all ports operate at 1Gbit/s, (Normal Mode). 6.12 W, 0.51 A at 12V: Typical Bypass Mode. 6.36 W, 0.53 A at 12V: Typical No link at all ports
Operating Temperature	0°C – 50°C (32°F - 122°F)
Storage	-20°C–65°C (-4°F–149°F)
Key Features	Bypass / Disconnect:
Connectors	(2) LC

10.1.3 Intel® Gigabit PT Quad Port Ethernet Adapter LP



Brand Name:	Intel Pro/1000 PT Quad Port LP Server Adapter
Product Code:	EXPI9404PTL/EXPI9404PTLBLK
Ethernet Controller:	Intel 82571GB
Connector/Cable Medium:	Connector/Cable Medium: RJ-45 Copper
Cabling Type:	Cat. 5 up to 1000m
Slot Type/Maximum Bus Speed/Slot Width:	PCI Express/ 2.5 GT, s Lane x 4 Lane
Ports:	Quad Ports
Supported Slot Heights:	Low Profile and Full Height

10.1.4 Quad Port Copper 1 Gigabit Ethernet PCI Express bypass



Brand Name:	PEG4BPi6 - Quad Port Copper Gigabit Ethernet PCI Express Bypass Server Adapter Intel® based
Product Code:	PEG4BPi6
Ethernet Controller	Intel 82576EB
Connector/Cable Medium:	Connector/Cable Medium: RJ-45 Copper
Cabling Type:	Cat. 5 up to 1000m
Slot Type/Maximum Bus Speed/Slot Width:	PCI Express/ 8 x Lane
Ports:	Quad Ports
Supported Slot Heights:	Low Profile and Full Height

10.1.5 Dual Port Copper 1 Gigabit Ethernet PCI Express Bypass Server Adapter



Brand Name:	Dual Port Copper 1 Gigabit Ethernet PCI Express Bypass Server Adapter
Product Code:	PEG2BPi6
Ethernet Controller	Intel 82576EB
Connector/Cable Medium:	Connector/Cable Medium: RJ-45 Copper
Cabling Type:	Cat. 5 up to 1000m
Slot Type/Maximum Bus Speed/Slot Width:	PCI Express/ 8 x Lane
Ports:	Dual Ports
Supported Slot Heights:	Low Profile and Full Height

10.1.6 Quad port Fiber (LX) Gigabit Ethernet PCI-Express Server Adapter Intel based



Brand Name:	Intel Quad port Fiber (LX) Gigabit Ethernet Server Adapter
Ethernet Controller:	Intel 82571EB
IEEE Standard / Network topology:	Fiber Gigabit Ethernet, 1000Base-LX (1310nm)
Data Transfer Rate	2000Mbit/s in full duplex mode per port
Cables and Operating distance	Asingle-Mode:5000m at 9um Multimode fiber: 550m at 50 um 550m at 62.5 um
Optical Output Power	Typical: -6 dBm Minimum: -10 dB dBm
Optical Receive Sensitivity	Typical: -25 dBm Maximum: -20 dBm

10.1.7 10/100/1000/10000 Fiber Tap



Model	10/100/1000/10000 TAP
Network Connections	10/100/1000/10000 LC Connectors
Additional Infos	50% / 50% splitting 850nm & 1300nm Damping <4dB

10.1.8 10/100/1000 Ethernet Tap, Datacomsystems



Model	10/100/1000-TAP, Datacomsystems
Network Connections	10/100 or Gigabit Tap (RJ45)
Monitoring Connections	10/100 or Gigabit (RJ45)
Power	5 VDC, 200ma Redundant Power Supply
Dimensions (H x W x D)	1.07 X 5 X 5 in 2.7 X 12.7 X 12.7 cm
Weight	12 oz. 0.34 Kgs
Operating Temperature	0° to 40° C
Storage Temperature	-30° to 65° C
Humidity	Less than 95° C non-condensing
Certifications	EN 50082-1 61000-4 Series EN 55022 Class A Low Voltage Directive 72-23-EEC (1993) CFR 47 Part 15 Class A CE Fully RoHS Compliant
Optional Rack Mount	RMC-3

10.1.9 HP Z400 Business Workstation inclusive Keyboard and Mouse (Monitor see next section)



Type	HP Z400 Business Workstation
Chipset	Intel® X58 Express
Processors	Intel® Xeon® Six-Core Processor W3680 (3.33 GHz, 12 MB cache, 1333 MHz memory)
Memory support ³	GB unpuffered ECC DDR3-DIMMs with 1333 MHz
Hard drive	500GB
Removable media	HP SATA DVD-ROM-Drive, HP SATA DVD+/-RW-Drive, HP SATA Blu-Ray Writer
Connectors	Front: 2 USB 2.0, 1 microphone entry, 1 headset exit, optional 1 IEEE 1394a Back: 6 USB 2.0, 1 audio entry, 1 audio exit, 1 micro entry, 2 PS/2, 1 RJ-45 to integrated Gigabit-LAN, optional 1 serial access internal: 4 USB 2.0
Expansion bays	External: One (1) 3.5-inch One (1) 5.25-inch Internal: One (1) 3.5-inch
Expansion slots	2 PCI Express Generation 2 x16, 1 PCI Express Generation 2 (x8 mechanic, x4 electric), 1 PCI Express Generation 1 (x8 mechanic, x4 electric), 2 PCI
Graphics	Nvidia NVS450 QP Graphics
Communications	Integrated Broadcom 5764 10/100/1000 PCI-E LAN-Card, optional Broadcom NIC, optional Intel NIC
Input devices	IHP PS/2 or USB Standard Keyboard, Washable Keyboard, ³ SmartCard Keyboard, ³

	HP PS/2 2-button optical scroll mouse or HP USB 2-button laser mouse or HP USB optical scroll mouse
Power	240W active PFC 240W 89% efficient active PFC3
Dimensions (h x w x d)	16,79 x 45,53 x 45,02 cm
Weight	7.6 kg 16.72 lb
Definition	Without upgrade elements

10.1.10 3 x 24"-TFT Monitors: [HP LA2405w 24-inch Widescreen LCD Monitor](#)



Type	HP Compaq LA2405wg - LCD-Display - TFT - 61 cm (24")
Product Number	NL773AT#ABQ
Panel Type	24-inch (61-cm) Wide-Aspect Active Matrix TFT
Resolution	1920 x 1200
Self Powered USB 2.0 Hub	One upstream, six downstream ports (cable included)
Input Connectors	1x DVI-D , 1x Displayport, 1x VGA , 1x USB-Uplink , 2x USB-Downlink
Dimensions (h x w x d)	557 (B) x 381 (H) x 278 (T) mm (incl. Foot)
Weight	5.2 kg
Warranty	Three years parts, labor, and on-site service limited warranty.

10.1.11 HP USV R/T3000



Type	HP R/T3000
Unit Dimensions	3.5 x 17.5 x 25 inches / 8.9 x 44.5 x 63.5 cm
Unit Weight	82 lbs/37 kg
BTU Break Down	BTU On Line 540 BT/hr BTU On Battery 1138 BTU/hr Battery Type 12 V, 5 AH, sealed, maintenance-free, rechargeable, valve regulated lead-acid batteries with a 3-5 year service life at 25C (77F).
Electrical Input	Voltage Range See Model Matrix for nominal and user selectable voltage settings Frequency 50/60 Hz Online Efficiency 95% REPO Remote Emergency Power-Off disables AC power to load Online Regulation -10% to +6% of nominal voltage
Electrical Output	On battery Regulation $\pm 5\%$ of nominal voltage Voltage Wave Form Sine wave Connections See Model Selection Matrix; divided into 2 Load Segments Output Protection Re-settable circuit protectors Type Maintenance-free, sealed, valve-regulated lead acid (VRLA)
Battery	Extended Batteries Up to two ERMs supported Backup Time See Backup Times Chart Recharge Time <3 hours to 80% usable capacity; <48 hours for complete recharge Serial Ports Standard DB-9 and USB ports (ships with communication cables)
Communications	Option Slot One Option Cards HP UPS Management Module LED Indicators LED and switch membrane integrated into the front panel Software HP Power Manager software included

10.1.12 HP 22" Rack 22U



Product description	HP Rack 10622 G2 Pallet - 22U
Product type	10622 G2
Colour	Carbon, Metallic Graphite
Rack size	48.3 cm (22")
Height (Rack-Units)	22U
Product material	Metal
Warranty	3 years warranty

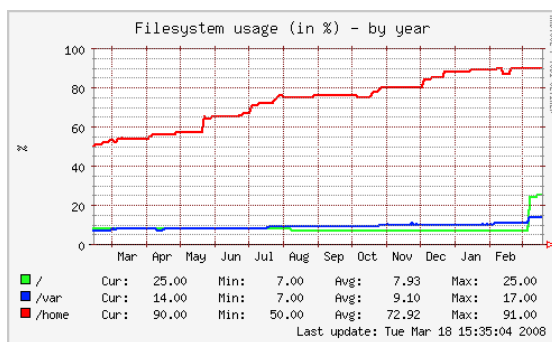
10.1.13 Cisco SGE2000 24 Port Managed Switch



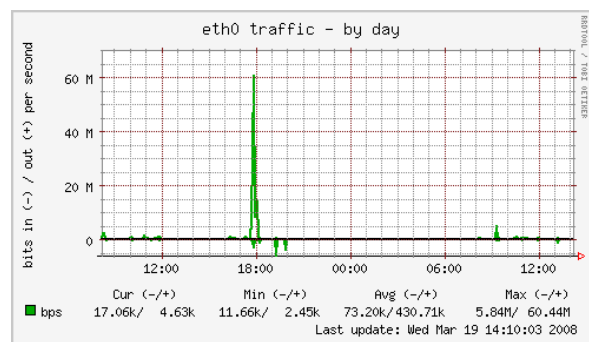
Type	Cisco SGE2000
Connectors	24x RJ-45 4x SFP Ports shared
Connection speed	1000 / 100 / 10 Mbps
Standards	IEEE 802.3 10 Mbps Ethernet IEEE 802.3u 100 Mbps Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3z Gigabit Ethernet IEEE 802.3x Flow Control Full duplex IEEE 802.3 ad LACP IEEE 802.1d STP IEEE 802.1Q/p IEEE 802.1w Rapid STP IEEE 802.1s Multiple STP IEEE 802.1x Port Access Authentications
Qos	4 x hardware based
Management	Web based SNMP, RMON
LEDs	Power, Cooler, Activity, Speed, RPS, Master, Stack ID 1-8
Montage	Standalone Rack montage possible
Power	Power supplier build in
Noise	max. 55 dB
Weight	6,39 kg
Measures	440 (B) x 44 (H) x 375 (T) mm

10.2 Service and Security Level Agreement Reporting

In the course of the monitoring of utilisation, the degree of usage of various system services will be recorded and translated into graphs. Through these data records of usage, the effective burden of the system can be visualised graphically and it can be continually examined whether or not the system utilisation corresponds to the current needs. In practice it is additionally the case that malfunctions or security problems affect the system usage. Via monitoring such problems can thus be detected.



Map 3: © by Dreamlab Technologies AG



Map 4: © by Dreamlab Technologies AG

In addition, Dreamlab Technologies continually monitors the service availability. Service availability can be calculated by means of the measurement data, as is shown by the following example:

Firewall			
Service Name	Succ. Checks	Failed Checks	Availability
Current Load	1168	0	100.00%
Current Users	1168	0	100.00%
Disk Space on /	1168	0	100.00%
MGM VPN	1168	2	99.83%
monitoring processes	1172	4	99.66%
ntpd processes	1168	0	100.00%
nullmailer processes	1168	0	100.00%
Spamfilter	1168	0	100.00%
Virusscan	1168	0	100.00%
Network Link Internet	1168	0	100.00%
Network Link LAN	1168	0	100.00%
Total Processes	1169	0	100.00%

Map 5: © by Dreamlab Technologies AG

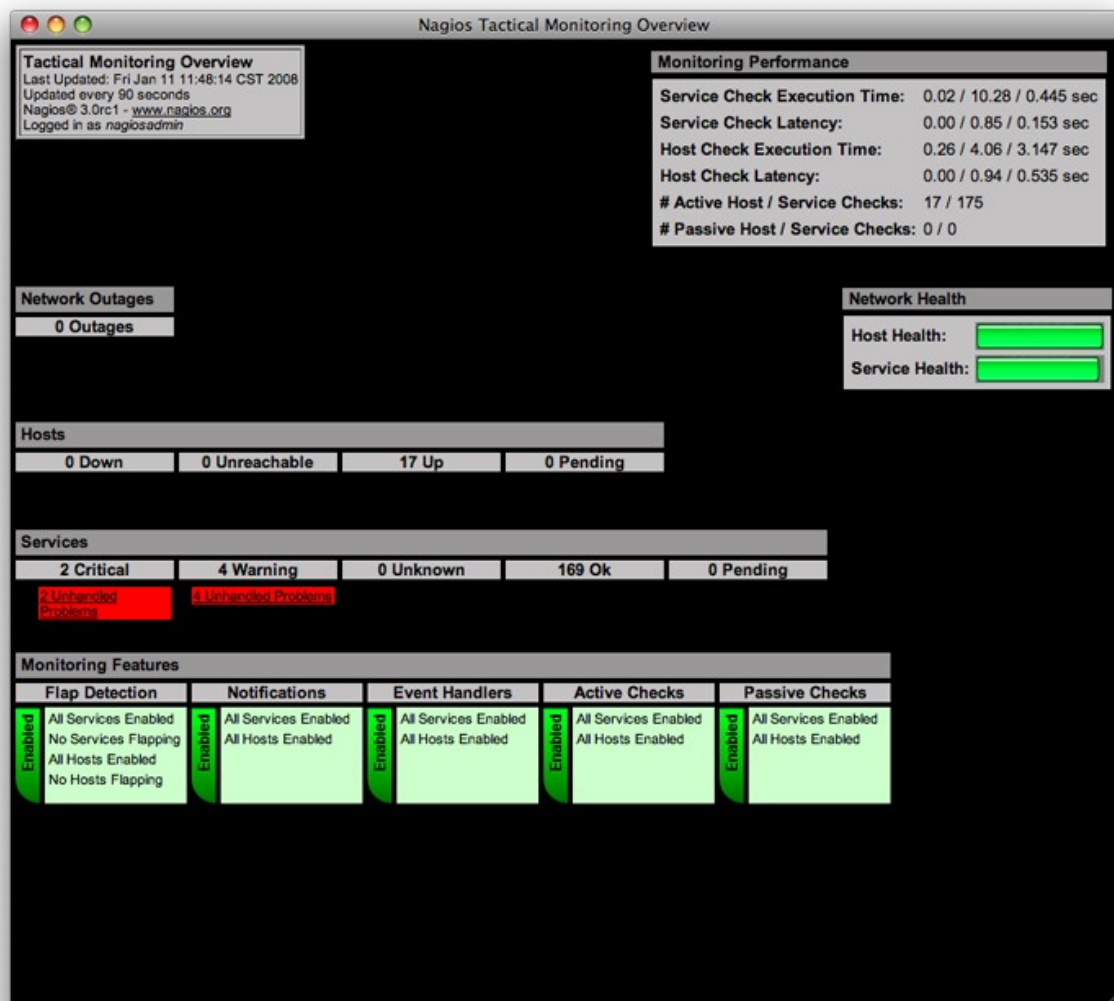
By this monitoring of service availability, the availability of a system within a specific timeframe (usually a month) can be calculated.

Both these types of report (availability and usage) will be made available to the client every month (electronically, as a PDF). Only that which is measurable can be steered and controlled. For this reason, already a large number of clients rely on the service and security level agreements with Dreamlab Technologies. The reports are ITIL-

compliant and are therefore very well suited to the support of managed processes in a company.

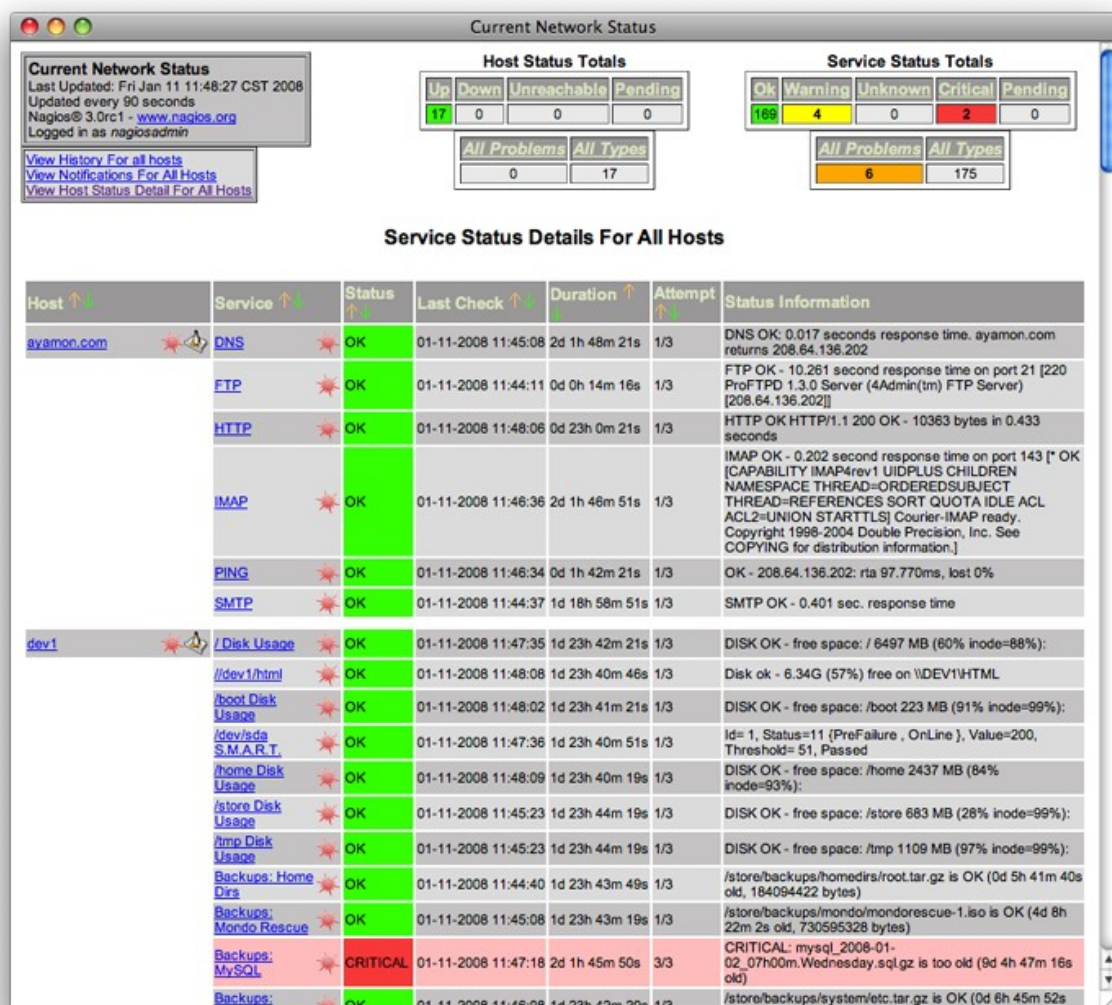
10.3 Alerting and Monitoring Infrastructure

10.3.1 Nagios tactical Overview



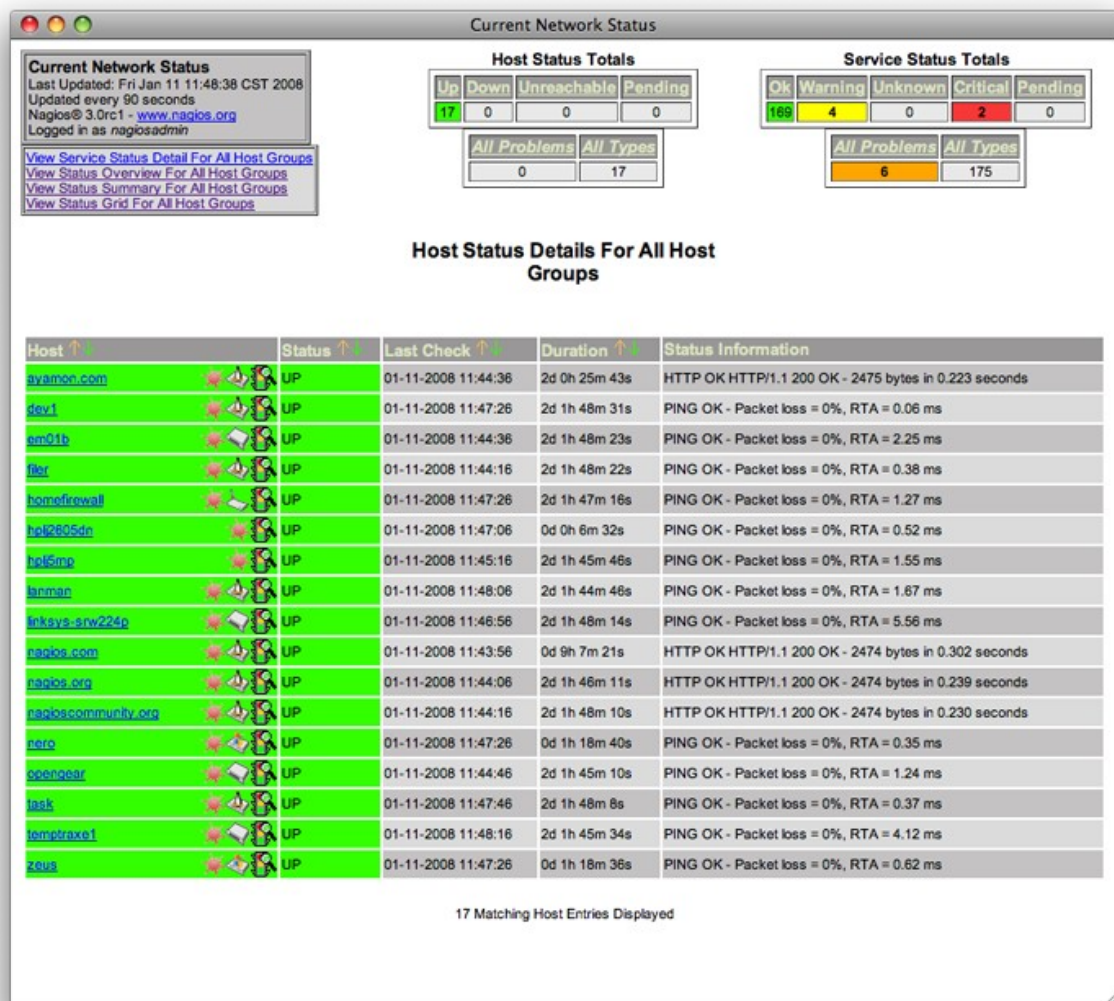
The tactical overview always shows all service and host checks that get performed and gives an overview of the health state of the whole system and its corresponding services. The monitoring platform is service aware and knows which services depend on what underlying systems. In case of outages or problems this screen directly indicates the elements that need treatment.

10.3.2 Nagios Service Details



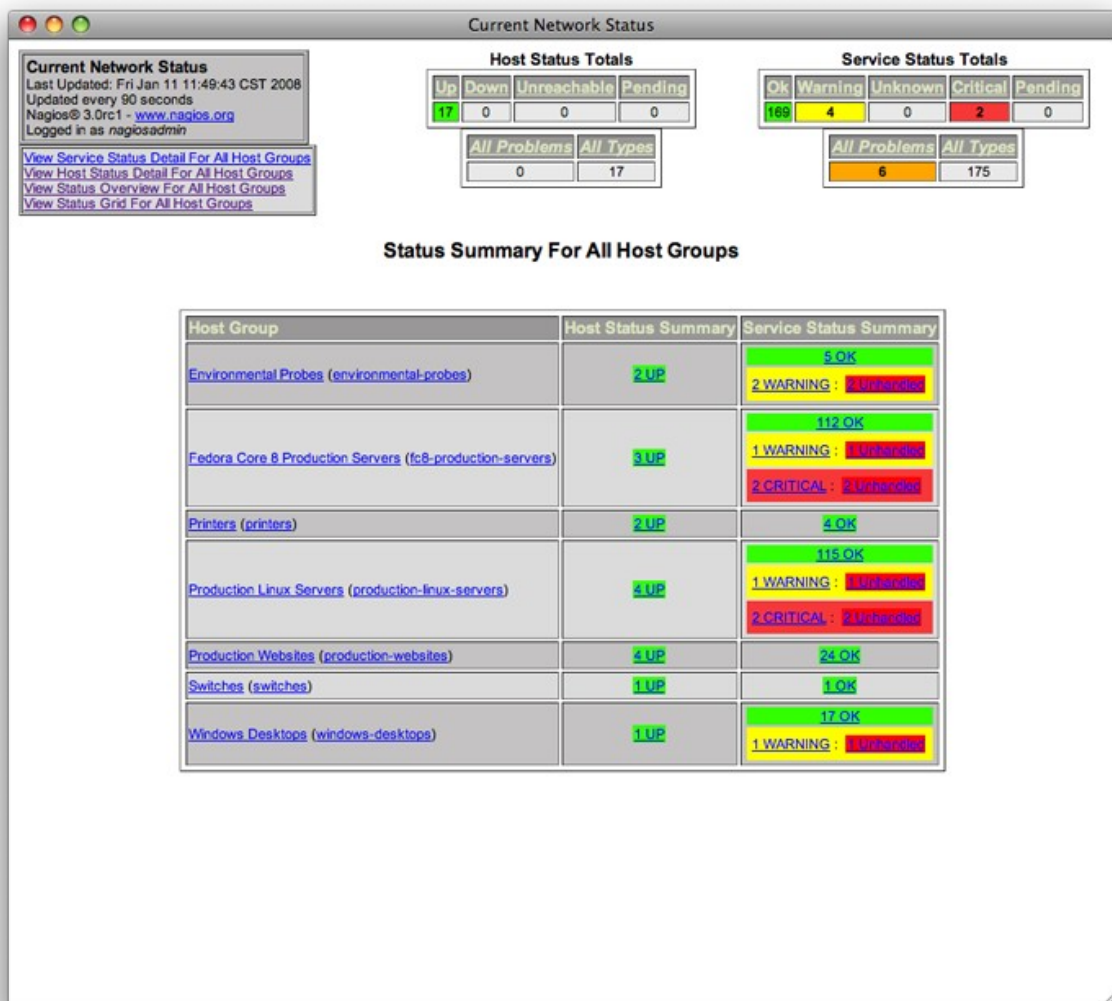
The service overview pane dissects the rendered services in its components. Each component is actively monitored and in case of failure the operator knows exactly which element is causing issues. Of course a history of all events is being kept.

10.3.3 Nagios Host Details



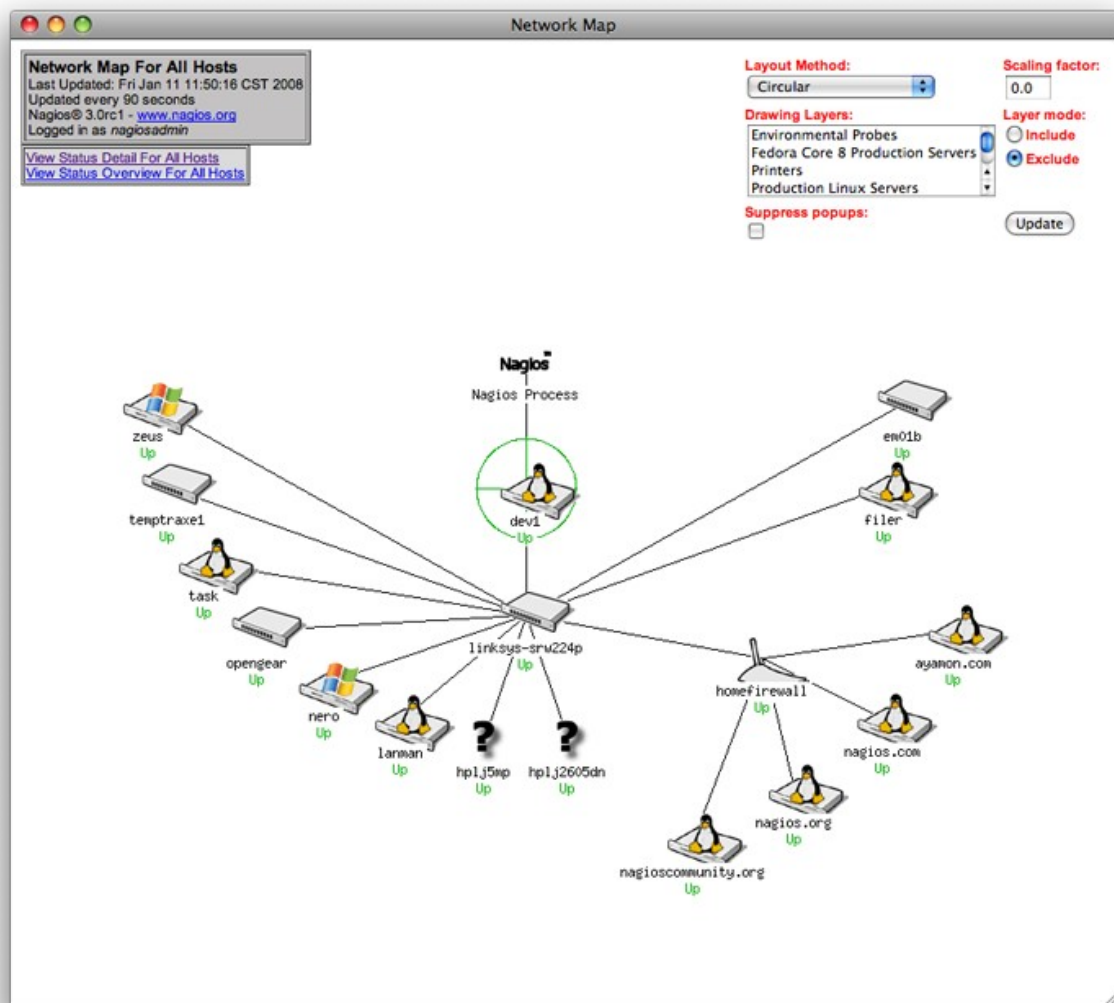
The host details pane shows all hosts participating in the system and its health state. From this screen the operator can drill in the detailed checks and their corresponding history.

10.3.4 Nagios Host Group Summary



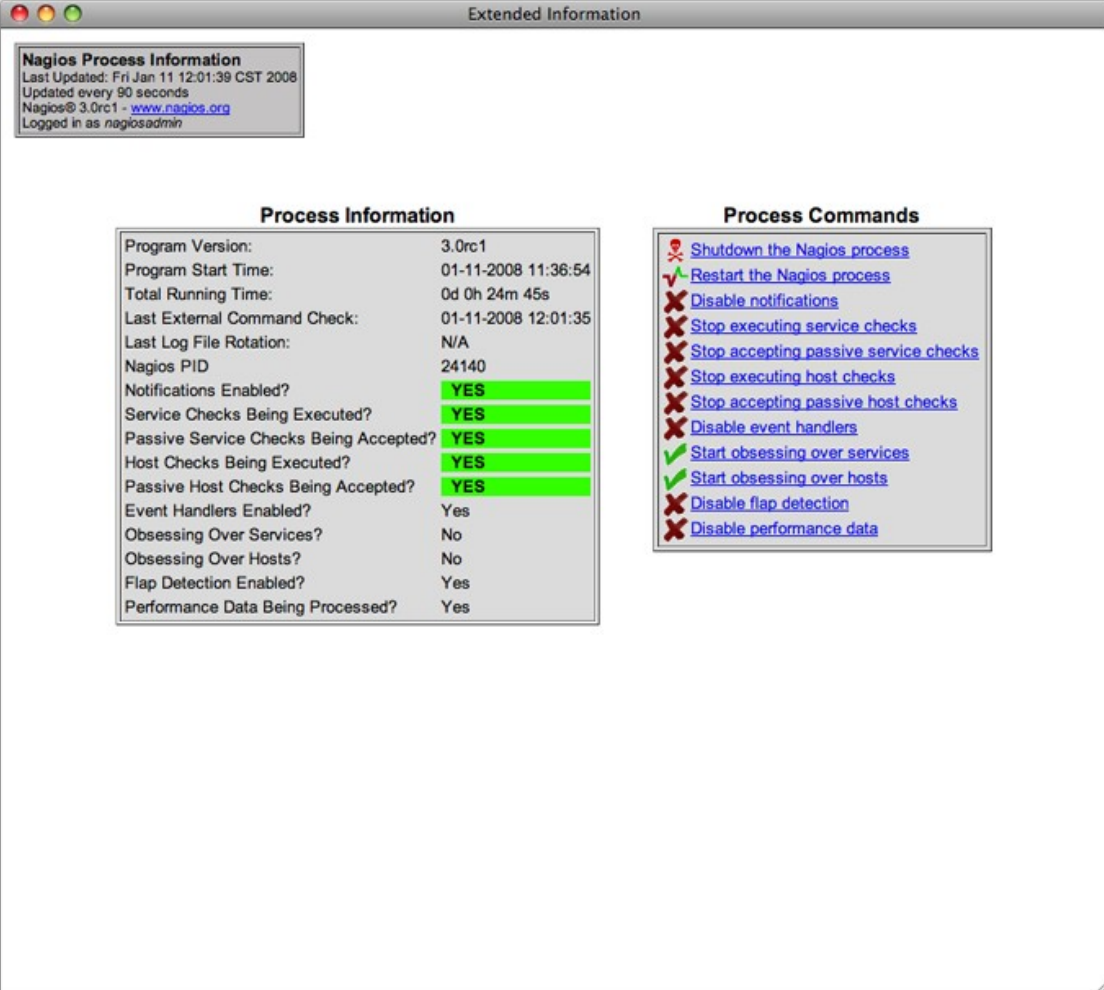
Modern services usually need more than one host to be rendered correctly. In the host group pane the operator is shown the logical function blocks including its real time monitored health state. This is a great tool for first line diagnosis of problems or anomalies.

10.3.5 Nagios Status Host Map



The host map shows the measured state in a topological manner.






10.3.6 Nagios Extended Host Process Information



The screenshot shows a web browser window titled "Extended Information". In the top left corner, there is a box labeled "Nagios Process Information" containing the following text: "Last Updated: Fri Jan 11 12:01:39 CST 2008", "Updated every 90 seconds", "Nagios® 3.0rc1 - www.nagios.org", and "Logged in as nagiosadmin".

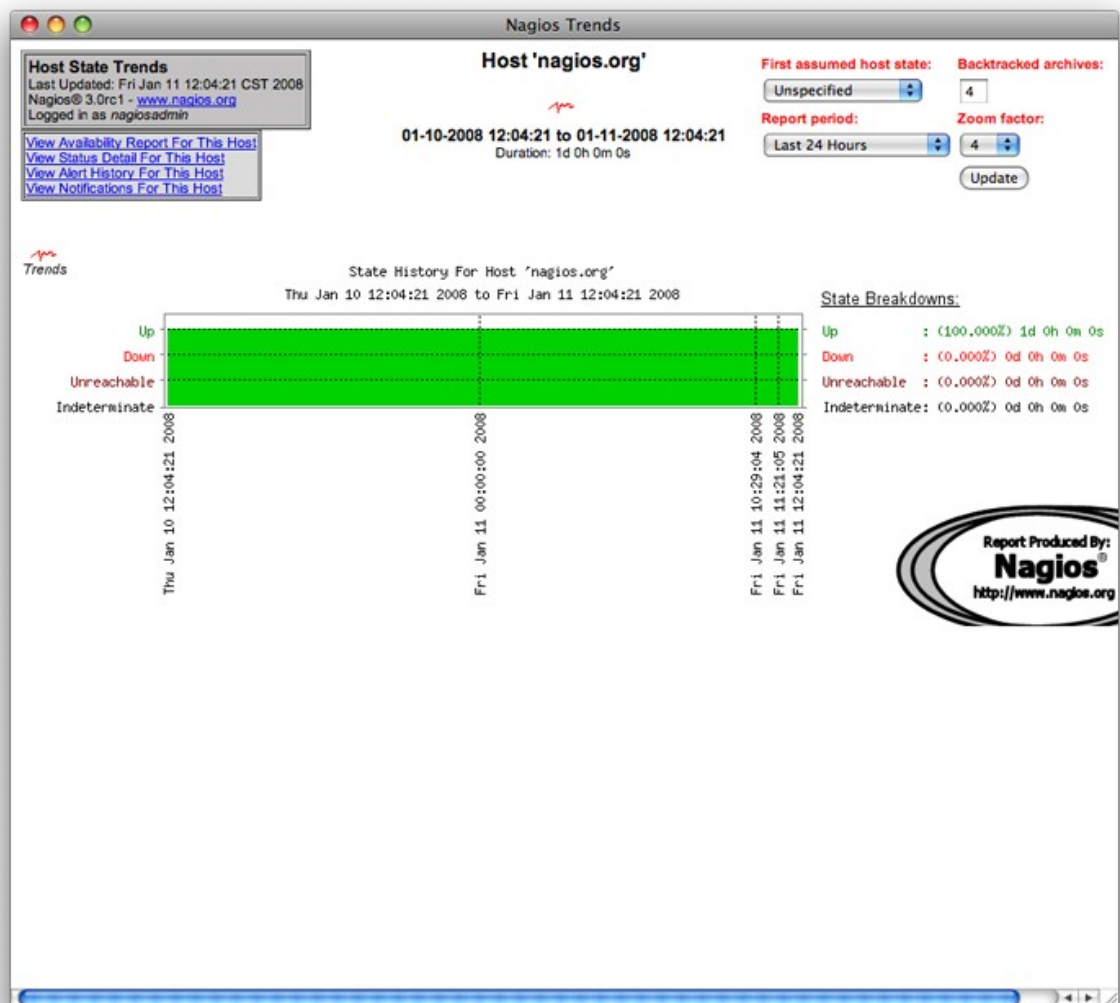
The main content area is divided into two panels. The left panel, titled "Process Information", contains a table of system and process details. The right panel, titled "Process Commands", contains a list of actions that can be performed on the Nagios process, each with a corresponding icon (a red skull and crossbones for shutdown, a green checkmark for restart, and a red X for disabling or stopping).

Process Information	
Program Version:	3.0rc1
Program Start Time:	01-11-2008 11:36:54
Total Running Time:	0d 0h 24m 45s
Last External Command Check:	01-11-2008 12:01:35
Last Log File Rotation:	N/A
Nagios PID	24140
Notifications Enabled?	YES
Service Checks Being Executed?	YES
Passive Service Checks Being Accepted?	YES
Host Checks Being Executed?	YES
Passive Host Checks Being Accepted?	YES
Event Handlers Enabled?	Yes
Obsessing Over Services?	No
Obsessing Over Hosts?	No
Flap Detection Enabled?	Yes
Performance Data Being Processed?	Yes

Process Commands	
	Shutdown the Nagios process
	Restart the Nagios process
	Disable notifications
	Stop executing service checks
	Stop accepting passive service checks
	Stop executing host checks
	Stop accepting passive host checks
	Disable event handlers
	Start obsessing over services
	Start obsessing over hosts
	Disable flap detection
	Disable performance data

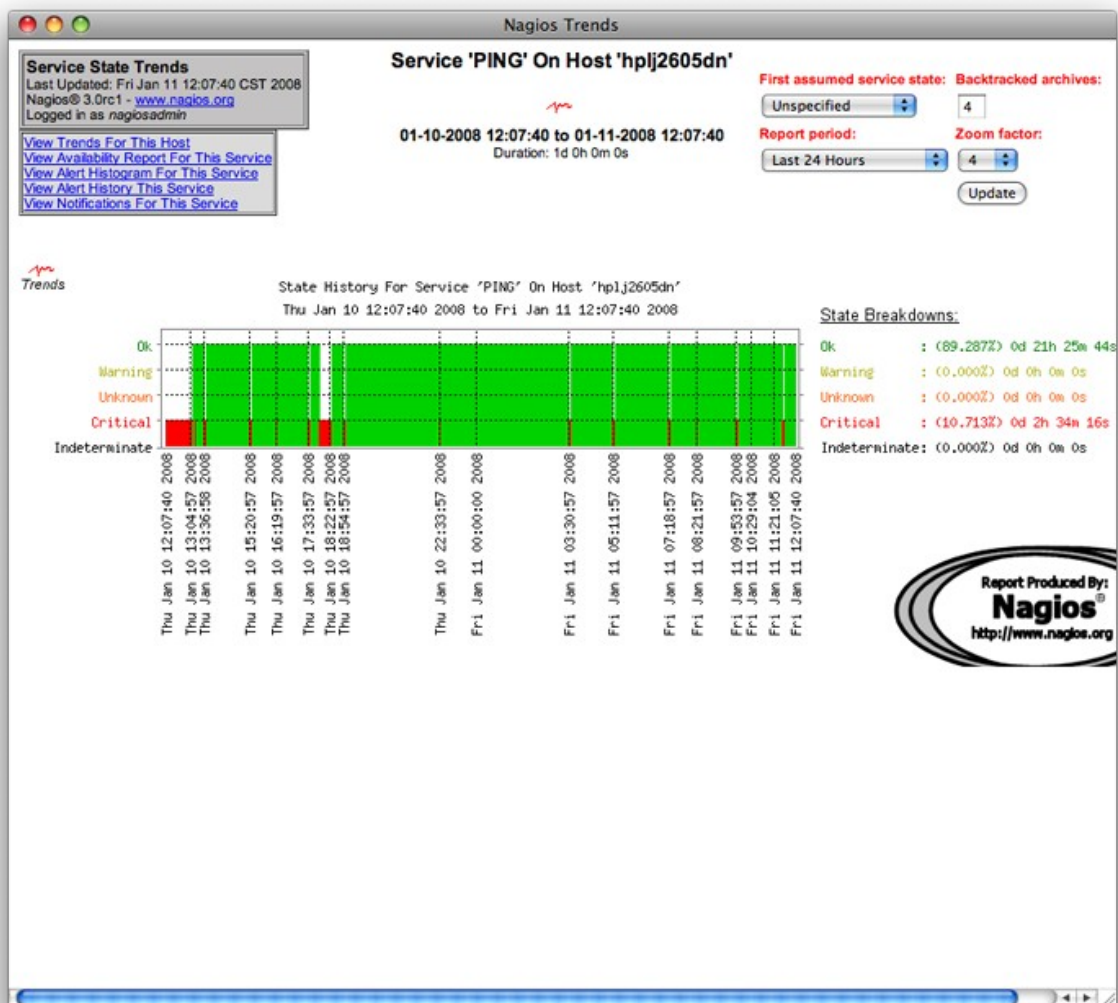
This detailed screen shows the specific monitoring configuration on a per host basis.

10.3.7 Nagios Trend Host View



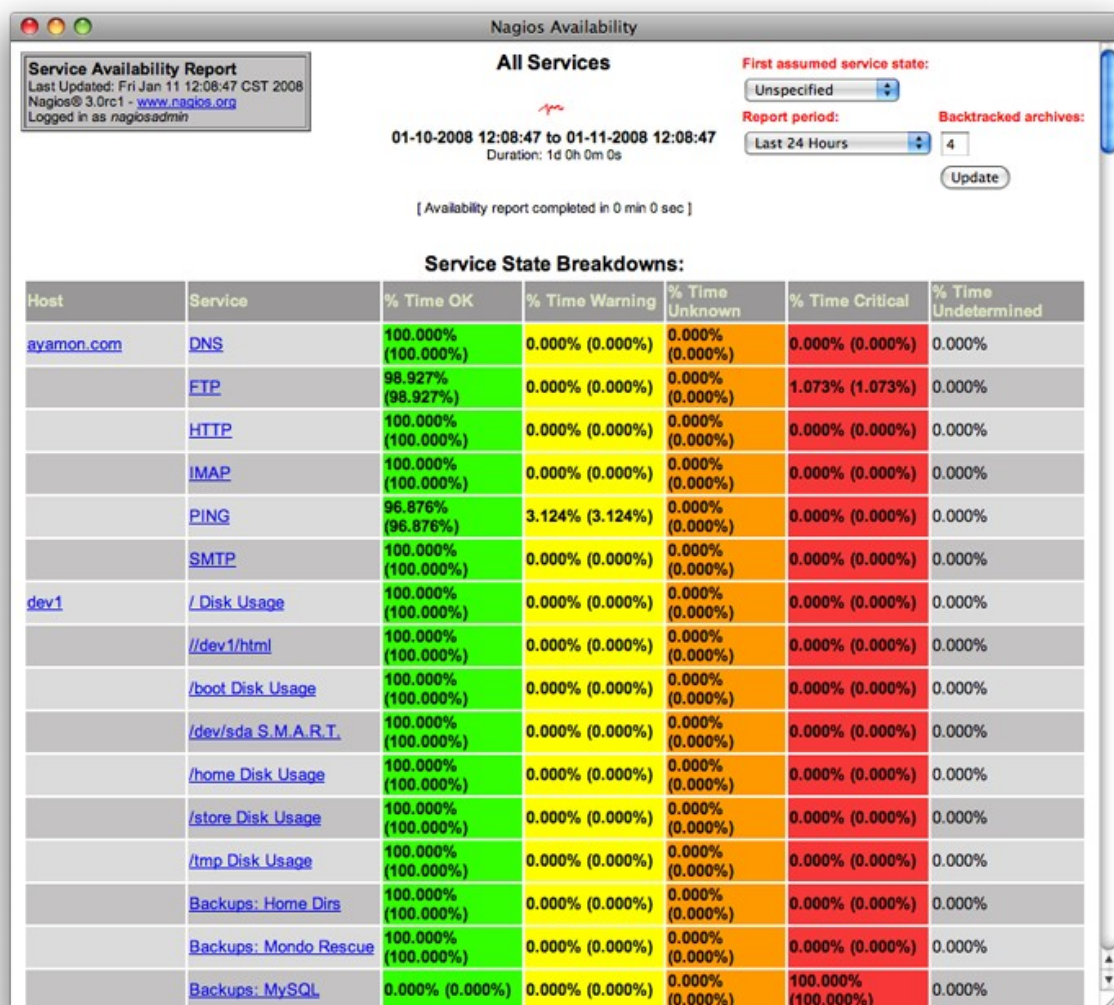
With the trending tool the overall availability and availability trends is being calculated in a format which is a perfect basis to calculate SLA aspects.

10.3.8 Nagios Trend Service View



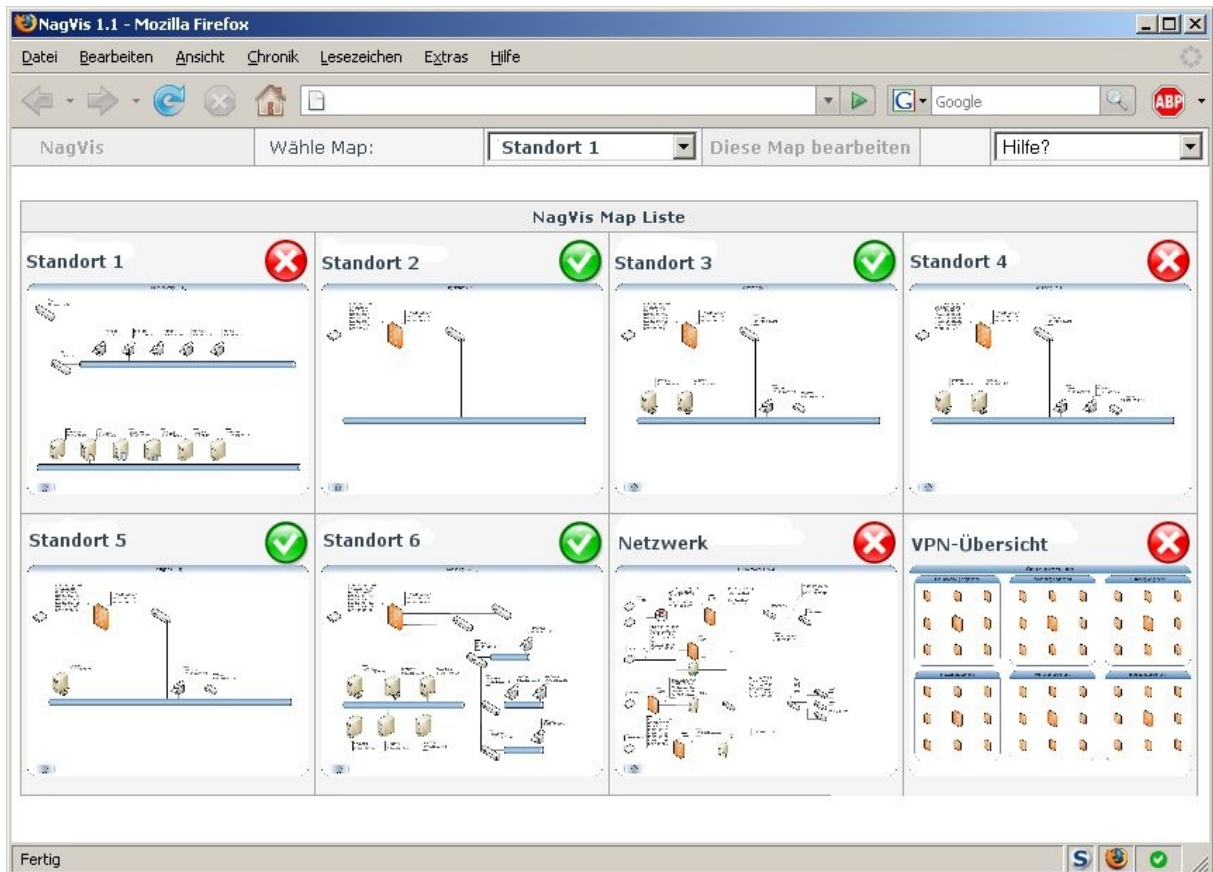
This example shows service outages on a timeline. Perfect for reconstructing events or managing outages.

10.3.9 Nagios Service Availability



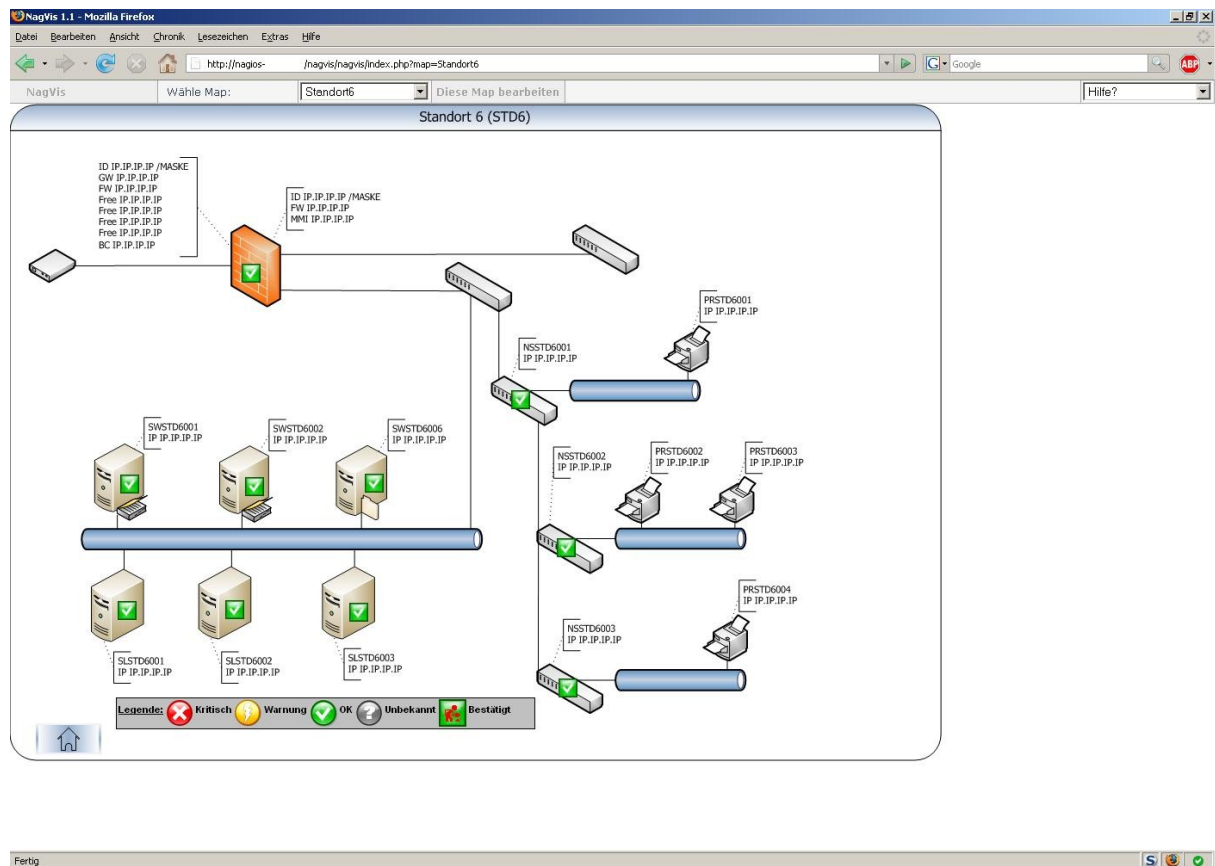
This feature of the monitoring platform calculates on a per host basis the detailed service availabilities in a defined timespan.

10.3.10 Nagvis Overview



With the Nagvis extension the whole monitoring infrastructure can be combined with informal layouts and graphs. This tool is of great value and help in visualising the very low level technical measurements on very informal and high level views enabling the operator to quickly identify potential problems.

10.3.11 Nagvis Overview



With the Nagvis extension the whole monitoring infrastructure can be combined with informal layouts and graphs. This tool is of great value and help in visualising the very low level technical measurements on very informal and high level views enabling the operator to quickly identify potential problems.

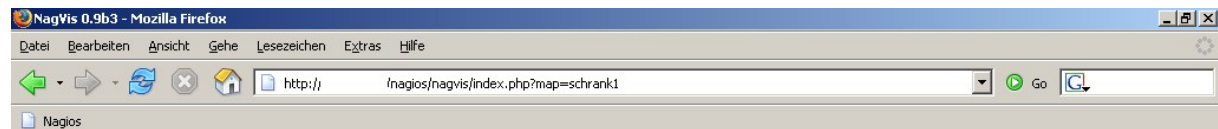
10.3.12 Nagvis Map Overview

Bérelt vonalak az országban

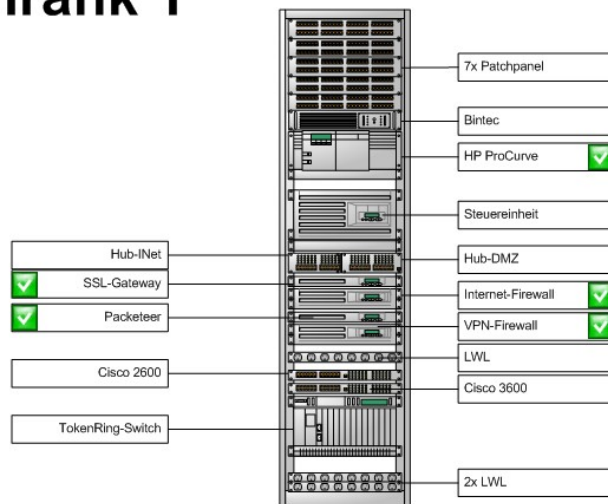


There is no limitation to the way the operator wants the service checks to be correlated and represented. In this example a very high level country wide overview of a system is shown.

10.3.13 Nagvis Rack Overview



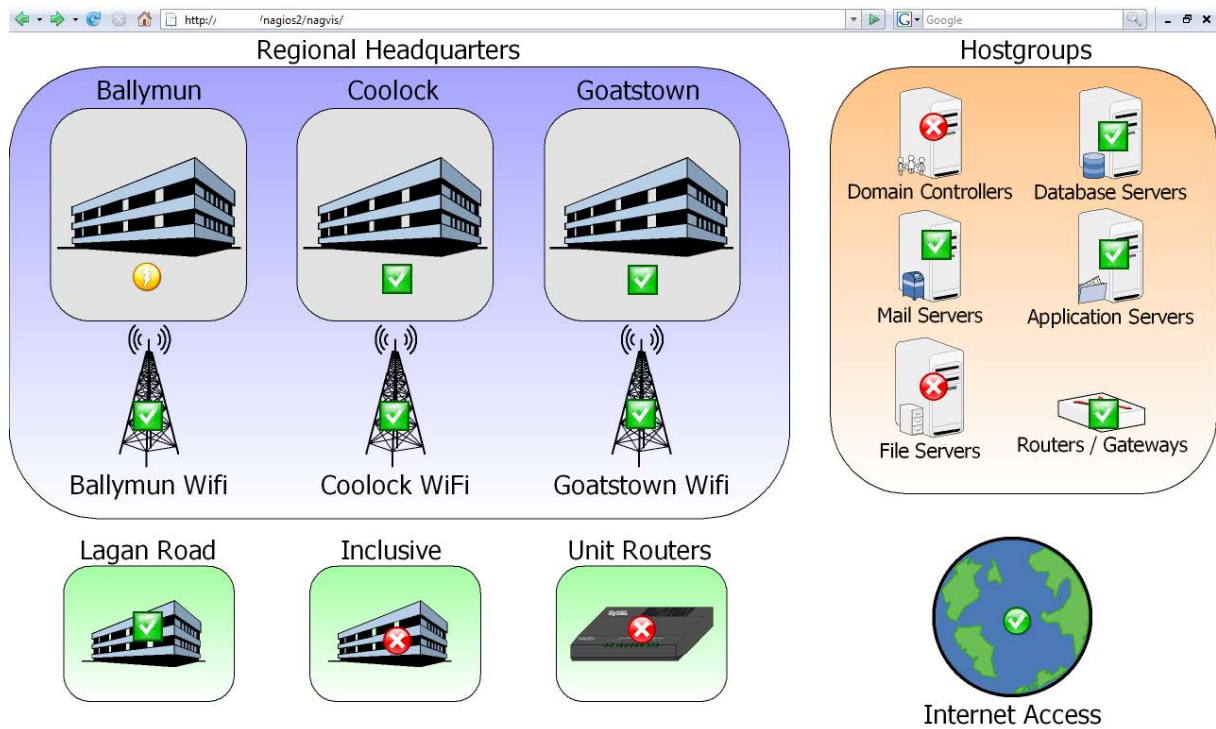
Schrank 1



Fertig

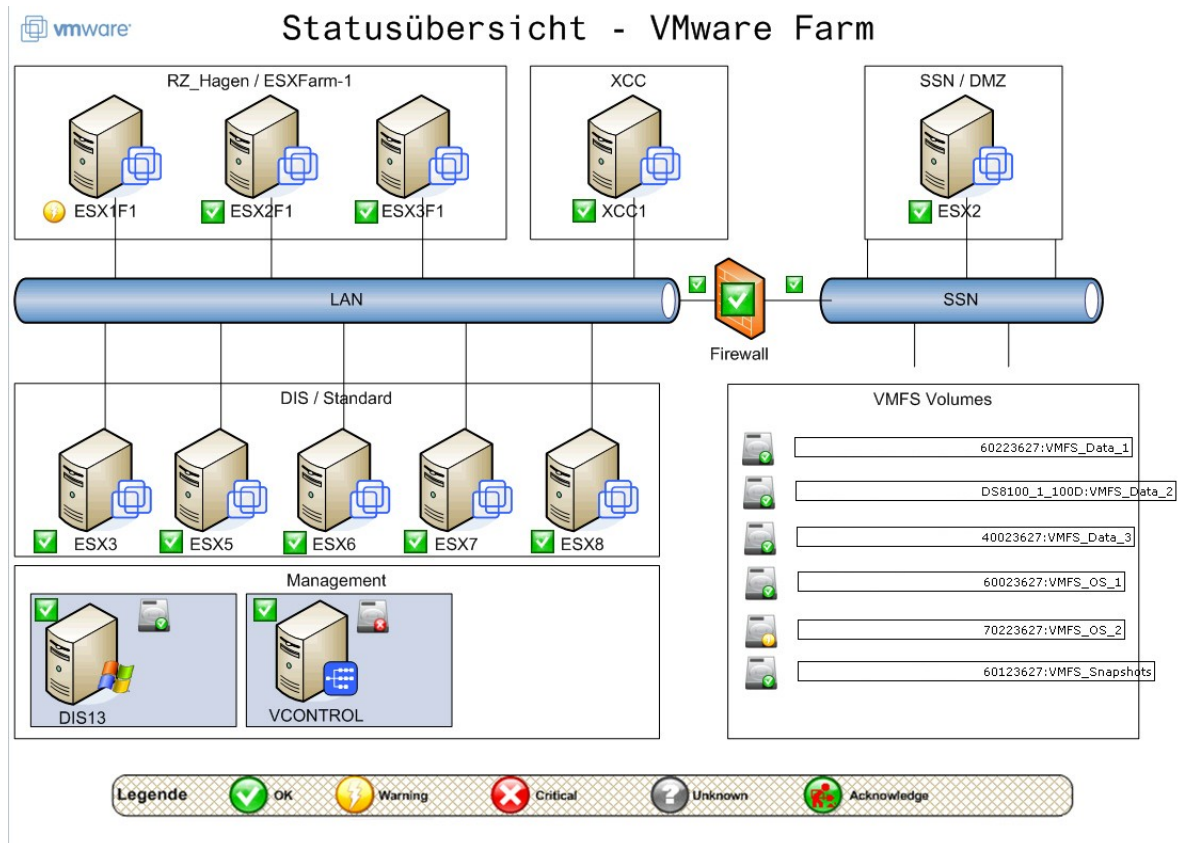
Combining multiple views and graphs lead to greatly reduced debugging times. From the very high level layouts the operator can drill in up to the rack view and see where problems need treatment on a physical layer.

10.3.14 Nagvis Site Overview



This is another example of a very high level and highly condensed system view. Bear in mind that the informal layouts get enhanced by the various real time checks which all get correlated and condensed leading to one working or not working statement per logical unit.

10.3.15 Nagvis Overview



With this monitoring platform even virtualised systems can be dissected and shown in informal graphs.

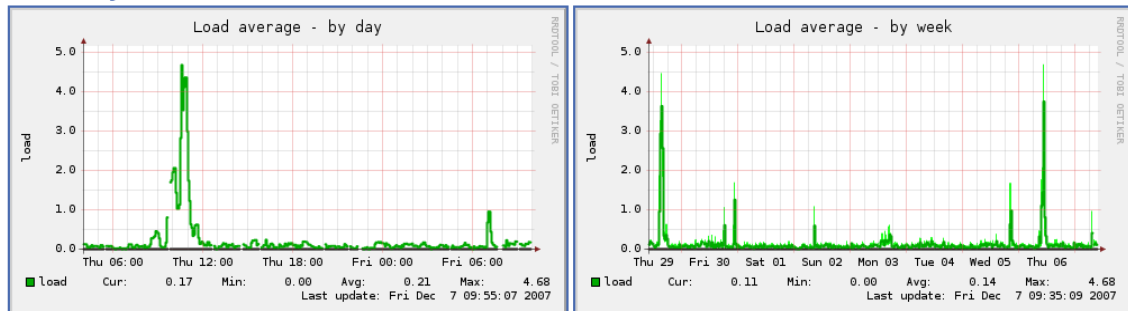
10.3.16 Nagvis System Detail Overview



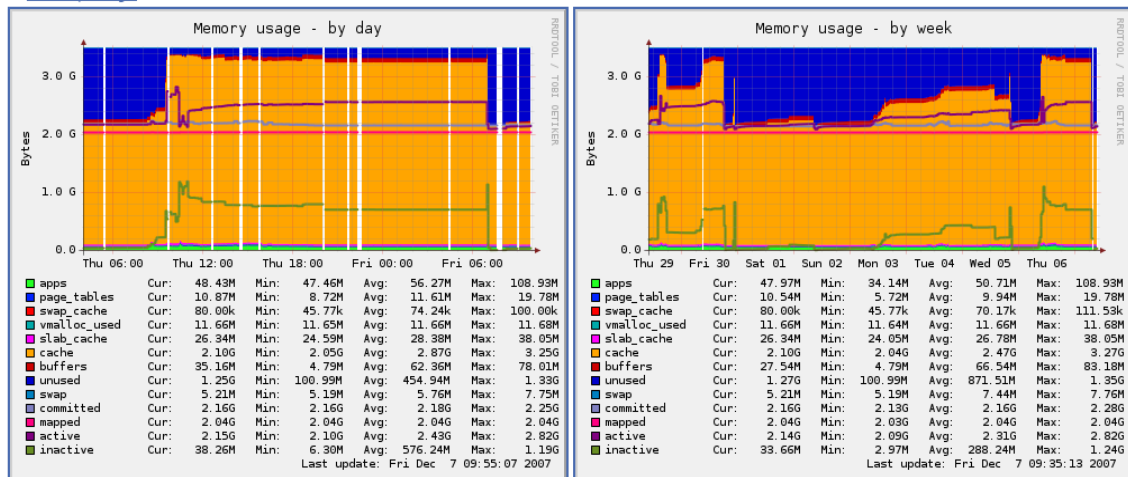
This example shows all actual performance consumptions on all systems in one singly page.

10.3.17 Munin Screen Overview

:: [Load average](#)

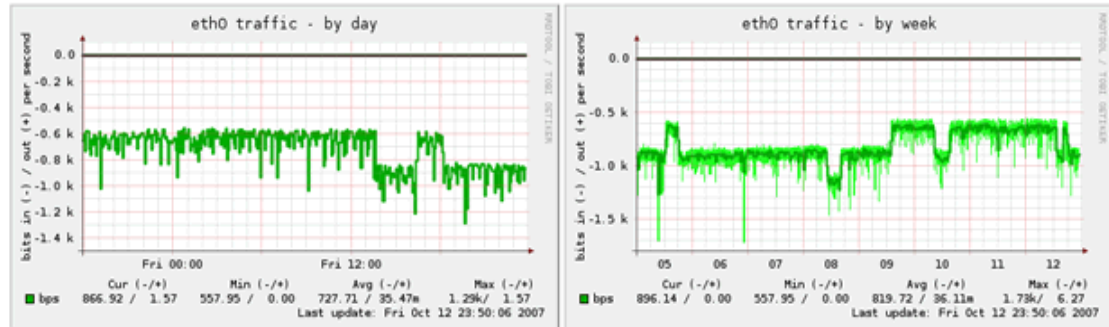


:: [Memory usage](#)

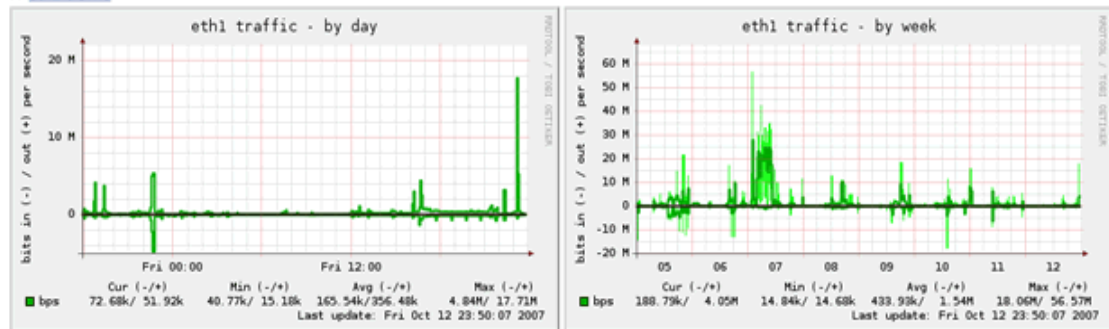


With the additional performance graphs every detailed measurement is shown in time series plots. Operators therefore get a very detailed view of every single aspect of a service and host. With the help of the time series and the operational knowledge the operators get a very detailed insight on any impact from any service provisioning to the systems.

:: eth0 traffic



:: eth1 traffic



In this example the network traffic incoming and outgoing is shown. This is a great tool to identify performance bottlenecks or as a great basis to enable forecasts.