OWNER:	ISSUE DATE:	VERSION:
ITSM	10/06/2010	2.01

TAXATION AND CUSTOMS UNION DG
ITSM

SUBJECT:

Evolutive version of the Capacity Plan for Commission IT Services

REF:

ITS-IPLN-SC06-CAP-COM-002-EVOLUTIVE MAINTENANCE

FRAMEWORK CONTRACT # TAXUD/2007/CC/088

SPECIFIC CONTRACT 06

DOCUMENT HISTORY

Edi.	Rev.	Date	Description	Action (*)	Pages
0	01	11/02/2009	Master document created	I	All
0	02	13/02/2009	Submitted for internal review	I/R	As req.
0	03	19/02/2009	Implementation of comments from internal review	I/R	As req.
0	10	20/02/2009	Submitted for review to DG TAXUD	I/R	All
0	11	26/05/2009	Processed comments after review meeting. Submitted for review to InternalQA.	I/R	All
0	20	27/05/2009	Processed comments from Internal QA. Submitted for review to DG TAXUD	I/R	All
1	00	18/06/2009	Processed comments after SFR. Submitted for acceptance to DG TAXUD.	I/R	As req.
1	01	25/03/2010	Updated according defined scope "Update with actual available data, and reflect trends & forecasts which impact Capacity."	I	All
1	02	29/03/2010	Implementation of QC comments	I	All.
1	10	29/03/2010	Sent for review to DG Taxation and Customs Union	I	All
1	11	28/05/2010	Processed comments after conf call. Submitted for review to InternalQA.	I/R	All
2	00	31/05/2010	Processed comments from Internal QA. Submitted for acceptance to DG TAXUD	I/R	As req.

2	01	10/06/2010	Processed comments from QA & DG TAXUD for re-SFA	I/R	As req.

(*) Action: I = Insert R = Replace

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. Introduction

This is the deliverable " Evolutive version of the Capacity Plan for Commission IT Services" identified in Specific Contract 04 to Framework Contract TAXUD/2007/CC/088 [A3], Work Package WP.8.2.2.1 Capacity Management of Commission IT services.

1.1 Purpose of the Capacity Plan

The Capacity Plan is a key deliverable from the Capacity Management process. It is a mid and long-term plan for ensuring the availability of the right capacity of IT Service production means. The Capacity Plan provides an inspection of the status of the capacity of the infrastructure as today, and - where data is available - an insight of the current capacity in use and past usage trends of the production facilities.

The final aim of the Capacity Plan is to combine this information with business perspective in the development of business transactions, into a capacity forecast. Based on this forecast the right amount of capacity for all resources can be put in place on time to prevent capacity shortages.

According to the Framework Quality Plan (FQP) [R3], the Capacity Plan contains advice on how much IT capacity is needed to match existing and future service needs, with a line of sight of at least three years. Forecasting over a longer period of time is only possible when sufficient history data is available and the long term business plans are provided. At this moment more data than last year is available, however some rescoping of which information and statistics are currently really relevant, obsolete, and what is still missing was considered during the creation of this Plan and listed in the conclusions.

Forecasting accuracy decreases when a longer period of time is involved. Also when little or no data is available, the prognoses cannot be made accurate. Therefore this plan needs to be reviewed and updated at least on a yearly basis and if needed revised, based upon identified capacity and/or performance issues or unforeseen business initiatives. A reflection must be made to evaluate the accuracy of any previous forecasts in relation to the actual measured statistics. Possible adjustments to the forecasts must be done

Capacity Management covers everything in the infrastructure that is contained in the Configuration Management Database (CMDB). The scope of Capacity Management is of course limited to the infrastructure which is part of the contract between XXX and DG Taxation and Customs Union. Despite the potentially huge volume of metrics and measurements that may be required to make effective capacity calculations and predictions, focus must be kept on the three key questions for Capacity Management:

- What is currently available?
- What is needed in the future?

- Will future needs fit in current capacity?

Focusing on these questions, successful Capacity Management can be achieved.

Capacity Management should balance supply against demand - i.e. making sure that the available supply of system resources matches the demands made for it by the business, both now and in the future; it may also be necessary to manage or influence the demand for a particular resource. It covers a wide range of services and technologies; thus, cannot reside in one domain or department in particular. It is useful to consider Capacity Management as taking place at three levels within an organisation: business scenarios, service capacity, and resource capacity. These sub-processes provide the necessary information to create and/or periodically revise the Capacity Plan. The following figure presents the Capacity Management sub-processes and the iterative activities that it encompasses.

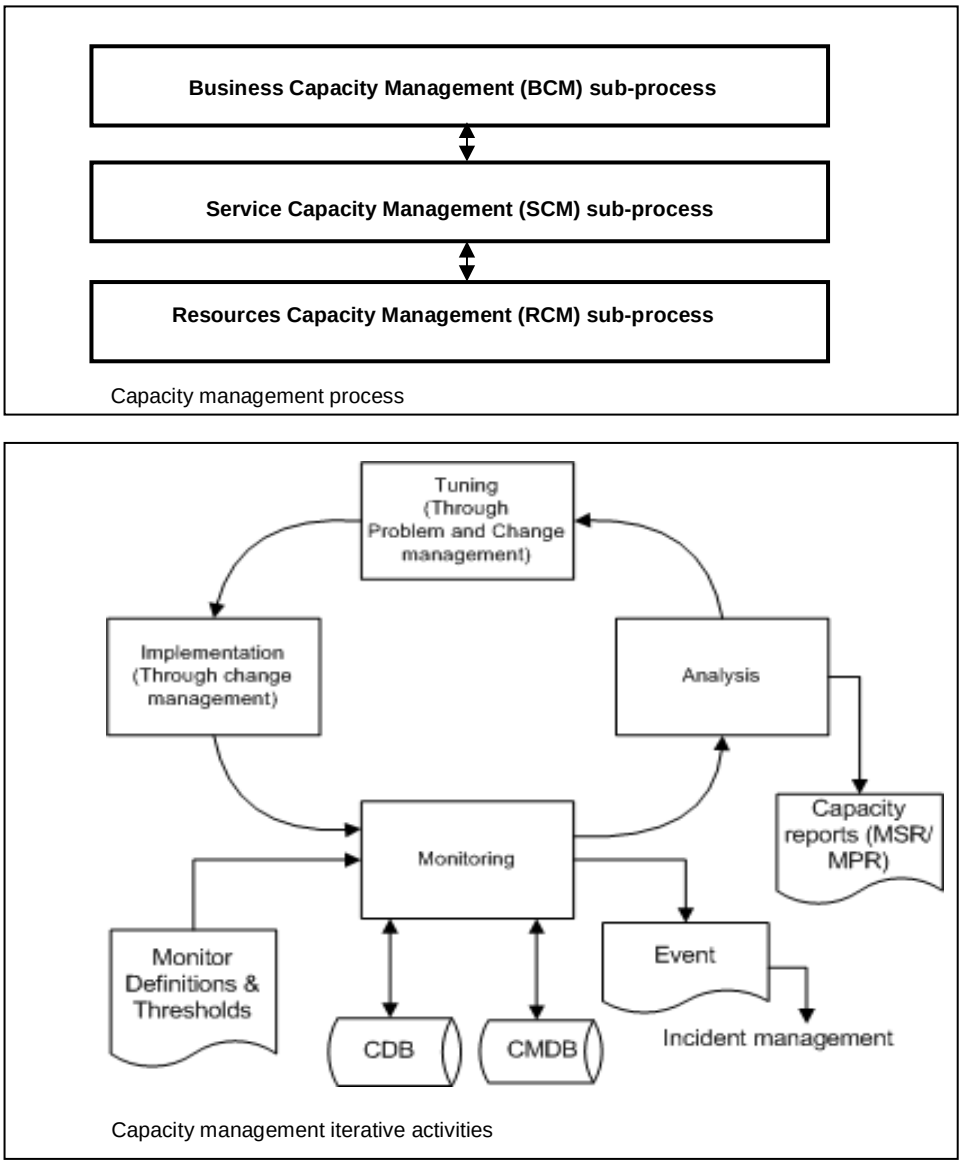


Figure 1: Capacity Management overview

The appropriate amount of utilisation data needs to be collected in the Capacity DataBase (CDB). Too much data renders the collection overhead unacceptable and file storage is wasted. Too little data makes investigation into incidents and problems difficult and Capacity Plans may be inaccurate. ITIL [R5] recommends that Capacity Management data is kept for all components and services, in a (virtual) repository, called the CDB. The CDB is important to Capacity Management, it is the key source of data for Capacity Planning and modelling.

The Capacity Plan should provide information to DG Taxation and Customs Union about the long term capacity requirements, to ensure that the current services will not suffer from capacity shortages. Based on this information, DG Taxation and Customs Union can budget for capacity expansion and ensure the required capacity resources are in place on time.

In addition to the organic growth of system usage, the amount of required capacity resources in the future is mainly driven by changes initiated by the business. It is of vital importance that a predicted future business event is properly translated into the impact it will have on the amount of business transactions for a specific service (i.e. an application or a system). For example: due to a change in legislation, the business expects for the coming three years an increase of 20% per year of the number of requests (business transactions) entering two specific business applications.

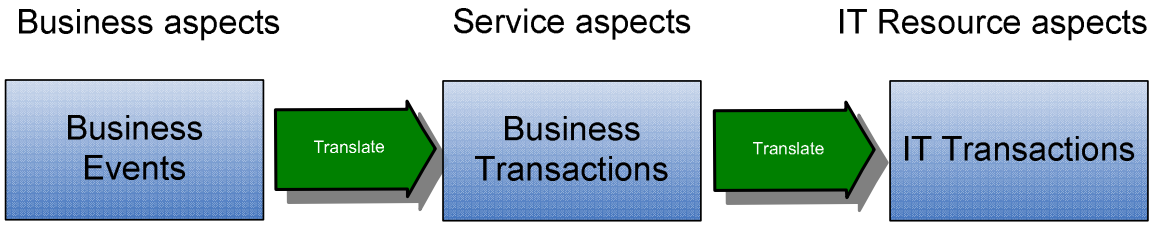


Figure 2: Capacity Aspects

When business plans have been translated into service aspects, the next step is to translate these service aspects into the impact they will have on existing IT resources. Translation means evaluating the correlation between an increased messages load and the related increase of IT resources. For example: 20% more requests (business transactions) in application A may be translated into five times more network messages of an average size of 40kb to be exchanged, 35% increase of disk space required and 10% additional CPU and memory required. To be able to draw the right conclusions upon future capacity needs, all aspects shown in the picture above should be considered.

The final conclusion of the present Capacity Plan is based on the current available data only. However, as the translation from business events to business transactions and from business transactions to IT transactions is not fully understood yet, the data provided in this plan cannot be accurately interpreted to result in a final overall capacity requirement recommendation.

1.2 Structure of this Document

The first three chapters provide document information:

- Document history;
- Table of contents;
- Lists of tables and figures;
- Introduction (this chapter);
- Reference and applicable documents;
- Terminology.

Chapter 4 provides a Management summary and the most important conclusions and recommendations for this Capacity Plan.

Chapter 5 describes the known business scenarios that generate major changes in the business environment; they will have an impact on the required IT Infrastructure capacity of potentially all services and should therefore be taken into account when forecasting capacity needs.

Chapter 6 deals with the Service Capacity Management aspects, which entail looking at the capacity aspects of the services delivered from the customer point of view.

Chapter 7 deals with the Resource Capacity Management aspects, which include the analysis of the data, gathered from system Management tools that monitor the various components of the technical IT Infrastructure. Based on this information, capacity forecasts are made.

Chapter 8 describes all recommendations for improvement on the various areas of Capacity Management as described in chapters 5, 6 and 7. Also an updated status of the recommendations from the last Capacity Plan is given.

1.3 Scope

1.3.1 Scope description

Capacity Management is responsible for ensuring that the Capacity of IT Services and the IT Infrastructure matches the evolving demands of the business in the most cost-effective and timely manner such that the current and future agreed service levels can be met and maintained.

Capacity Management considers all resources required to deliver the IT Service and plans for short, medium and long term Business requirements. However, the present Capacity Plan will not address the human resources aspects linked to Capacity Management. The objective of Capacity Management is to ensure that service providers (XXX and external parties) have, at all times, sufficient capacity to meet the current and future agreed demands of DG Taxation and Customs Union's Business needs, thereby making optimal use of the capacity resources currently in place.

The scope of this document is limited to applications and underlying infrastructure part of SC06 [A4]. This consists of systems and applications part of the following Business Threads:

- Customs;
- Excise;
- Taxation.

The Capacity Management process has a broad scope that brings together business, service, and resource capacity needs, in order to ensure optimal use of the resources needed to achieve the levels of performance agreed upon with the end user or DG Taxation and Customs Union. "Optimal" in this context refers to resource usage at the best place, time and quantity. The coverage of this Capacity Plan is for the following IT services:

- Commission IT services, addressing the threads in the scope of SC06 [A4];
- ICT Infrastructure services underlying these Commission IT services (including dependencies with other service providers such as DIGIT, etc).

The scope of this Capacity Plan for Commission IT services is limited to the Applications and ICT infrastructure under the responsibility of the Commission. From the DG Taxud Information Architecture [R10] document it can be derived that the statement above matches with the following "Mode of Operation":

- Centrally Operated;
- Commonly Operated.

Only the Centrally or Commonly Operated Applications will have centrally managed components which therefore belong to the scope of the Capacity Plan for Commission IT services. The Applications and ICT infrastructure which are Locally Operated are covered by the Capacity Plan for trans-European IT services.

1.3.2 Scope statements

Based on the scope description in the previous paragraph the following statements define the limitation of the scope of the Capacity Plan for Commission IT services:

1. Applications which are already foreseen but for which their entry in production is forecasted as from January 2011 are covered whenever the info is available. Further updates of the Capacity Plan for Commission IT Services will include them as required in the scope.
2. The scope of this document is limited to applications and underlying infrastructure part of SC06 [A4]. This consists of systems and applications part of the Business Threads Customs, Excise, and Taxation.
3. Only applications which are Centrally Operated are in scope of the Capacity Plan for Commission IT Services.

Based on these scope statements and information from the TAXUD Technical Infrastructure Reference [R6] document, it can be concluded that the following applications are therefore in scope of this Capacity Plan:

Applications / Systems in scope of the Capacity Plan for COM		
APPLICATION	BUSINESS THREAD	MODE OF OPERATION
EOS-AEO	Customs	Centrally Operated
EOS – EORI	Customs	Centrally Operated
ART	Customs	Centrally Operated
CN	Customs	Centrally Operated
DDS (=DDS2)	Customs	Centrally Operated
EBTI (=EBTI3)	Customs	Centrally Operated
ECICS2	Customs	Centrally Operated
ISPP	Customs	Centrally Operated
CRMS (formerly RIF)	Customs	Centrally Operated
SMS	Customs	Centrally Operated
SURV (SURV2)	Customs	Centrally Operated

Applications / Systems in scope of the Capacity Plan for COM		
SUSP	Customs	Centrally Operated
TARIC (2/3)	Customs	Centrally Operated
TARREP	Customs	Centrally Operated
TQS(=QUOTA2)	Customs	Centrally Operated
SPEED (=SPEED ECN)	Customs	Centrally Operated
SEED	Excise	Centrally Operated
SMART	Customs	Centrally Operated
CS/MIS	Customs	Centrally Operated
CS/RD	Customs	Centrally Operated
Web2000	Customs	Centrally Operated
Vow	Taxation	Centrally Operated
VIES MON (= VIM)	Taxation	Centrally Operated
VoW MON (=VWM)	Taxation	Centrally Operated
VoW CT (=VCT)	Taxation	Centrally Operated
VIES stat (=VSS)	Taxation	Centrally Operated
TEDB (=TIE)	Taxation	Centrally Operated

Table 1-1: Applications / Systems in scope of the Capacity Plan for COM

1.4 Maintenance of this Document

The Capacity Plan must be kept up-to-date and must be reviewed periodically and in some occasions revised after capacity incidents or unforeseen business initiated projects.

In order to proactively achieve the right capacity available to the Commission, the IT Capacity Plan has both short-term and long-term actions defined.

Updates of Capacity Plan find its sources in the following:

- Service Level Target (SLT) not met for a new IT Service or Configuration Item (CI);
- Unacceptable levels of service performance;
- Gradual deterioration of performance detected from measurement trends;
- Unexpected capacity growth/decline, not in line with the Capacity Plan prognoses;
- Gradual filling of resources growing towards service outage, detected from measurement trends;
- The business requires increasing the use of capacity in some unexpected form;

- New or changed business requirements that influence demand and for which additional capacity will be required;
- New or changed predictions due to modelling and (trending) analysis of statistics;
- New European regulations (which may impose changes in the provided services);
- Changed Service Level Agreements and Service Level Requirements.

The Capacity Plan is updated by the Capacity Manager. For all information gathered in this document, the source of the information is clearly defined. When the responsibility for delivering all the pieces of data is clear, it is straightforward to update the plan. The Capacity Manager takes the following approach:

- Identify new and/or retired services from the Service Capacity Management chapter;
- Identify new and/or retired components from the Resource Capacity Management chapter;
- Request updates on all pieces of information from the responsible persons/roles;
- Process the received data in a new version of the Capacity Plan;
- Based on the information received, interpret the data, draw the conclusions and write the recommendations;
- Write Management Summary.

1.5 Assumptions and Constraints

It is assumed that the reader of this Capacity Plan has a basic understanding of the Capacity Management process, SLA s and the ITIL framework for Service Management.

1.6 Target Audience

The intended target audience for this document are:

- DG Taxation and Customs Union process representatives of Units A3 and A4;
- DG Taxation and Customs Union Business Thread representatives;
- Business Perspective Managers;
- Service Level Manager;
- Availability Manager;
- Change Manager;
- IT Service Continuity Manager;
- The National Project Managers (NPM);
- The National Operations teams;
- National Administration representatives;
- Sector leaders;
- Members of the Central Project Teams (CPT);;
- ICT Infrastructure Manager;
- Application Manager.

2. Reference and Applicable Documents

This chapter presents two lists of relevant documents. They are divided into reference and applicable documents.

2.1 Reference Documents

Id	Reference	Title	Date	Version
R1	Traffic_Projection_2013.xls	Traffic Projection 2013 sheet	200x	V0.01
R2	VSS-ISTS-VOW-200x-xx-VoW stats	VSS-ISTS-VOW-200x-xx-VoW stats	200x	V1.00
R3	ITS-IFQP-SC04-Annex18 Capacity Management	Framework Quality Plan	03/2010	V 1.04
R4	TAXUD ITSM - TECHNICAL ANNEX	Technical Annex to the Model Framework Contract of ITT TAXUD/2006/AO-007	2006	1.00 – EN
R5	ITIL Best Practice	Service Delivery process “Capacity Management”	2003	Version 2
R6	Technical Infrastructure Reference	Technical Infrastructure Reference to the Model Framework Contract # TAXUD/2007/CC/088	22/05/2009	1.20
R7	MPR/MSR	Monthly Service Report	1-12/2009	N/A
R8	2013 IT perspective.doc	2013 IT perspective.doc	2005	4.1
R9	Digit File System Overview.xls	Digit File System Overview.xls	2009	N/A
R10	ITS-IRPT-ARD-001	DG Taxud Information Architecture	13/01/2009	1.11
R11	TAX-ISTS-TEDB-2009-12-stats	TAX-ISTS-TEDB-2009-12-stats	2009	V1.00
R12	Year Summary 2009	Year Summary 2009	2009	N/A
R13	ITS-IRPT-INF-SC04-002	ICT-Architecture addressing the Taxation Business Thread	18/12/2008	V1.00
R14	ITIL	Service Delivery Management	NA	V2
R15	MASP	Multi-Annual Strategic Plan	21/08/2008	Rev.9

Id	Reference	Title	Date	Version
R16	Taxation Foreseen Activities 2009-2011	Taxation Foreseen Activities 2009-2011.mpp		
R17	AEO-EORI – Capacity Requirements - 20091204	AEO-EORI - Capacity Requirements - 20091204	14/04/2009	
R18	ITS_ISLA-eCUST-TES-ACM_V1.3.1-EN.doc	Service Level Agreement for Availability and National Administrations	07/04/2010	

Table 2-1: Reference Documents

2.2 Applicable Documents

An applicable document is a document of which the content is binding for the contractor in the context of this document.

Id	Reference	Title	Date	Version
A1	OLA-H-I	Hosted Infrastructure OLA between XXX and DG Taxation and Customs Union.	14/07/2008	0.06
A2	TAXUD/2006/AO-007	ITT for ITSM	25/07/2006	N/A
A3	TAXUD/2007/CC/088	Framework contract	04/05/2007	N/A
A4	TAXUD/2008//DE/128	Specific Contract 06	30/10/2009	N/A
A5	SCIT68 –SLA	Service Level Agreement (VAT related systems)	14/03/2008	V3.00

Table 2-2: Applicable Documents

3. Terminology

3.1 Abbreviations and Acronyms

A list of abbreviations and acronyms used is provided here for a better understanding of this document.

Abbreviation/ Acronym	Description
BCM	Business Capacity Management
BTI	Binding Tariff Information
CCN	Common Communications Network
CDCO	Centrally Developed, Centrally Operated
CDB	Capacity DataBase
CI	Configuration Item
CMDB	Configuration Management Database
CPU	Central Processing Unit
CSIP	Continuous Service Improvement Programme
DIGIT	Directorate-General for Informatics
ECS	Export Control System
FQP	Framework Quality Plan
ICT	Information & Communications Technology
ITIL	Information Technology Infrastructure Library
IT/IS	Information Technology/Information Services
ITMS	Integrated Tariff Management System
ITSM	Information Technology Service Management
LISO	Local Information Security Officer
NA	National Administration
NCTS	New Computerised Transit System
RIF	Risk Information Forms
SC	Specific Contract
SCOM	System Centre Operations Manager
SLA	Service Level Agreement
SLT	Service Level Target
SURV	Surveillance

Abbreviation/ Acronym	Description
XXX	Unisys Siemens Bull – Contractor in charge of ITSM
VoW	VIES-on-the-Web
VoW CT	VIES-on-the-Web Configuration Tool
TEMPO	Quality Management System of DG Taxation and Customs Union (DG TAXUD Electronic Management of Projects On-line)

Table 3-1: Abbreviations and Acronyms

3.2 Definitions

The following definitions are extracted from ITIL.

Term	Definition
Capacity	The maximum Throughput that a Configuration Item or IT Service can deliver whilst meeting agreed Service Level Targets.
Capacity Plan	A Capacity Plan is used to manage the Resources required to deliver IT Services.
Capacity DataBase	A Capacity Database (CDB) contains information and statistics on the current utilisation of all components to support Capacity Management, as well as other Service Delivery or Service Support processes. The CDB may be part of the Configuration Management DataBase (CMDB).

Table 3-2: List of Definitions

4. Management Summary

According to the FQP [R3], the Capacity Plan contains advice on how much IT capacity is needed to match existing and future service needs, with a line of sight when possible of 5 years. Forecasting over a longer period of time is only possible when sufficient history data is available and the long term business plans are provided. At this moment in some cases only information from a limited period of time is available on the various areas covered by this Capacity Plan. Therefore the line of sight for forecasting varies per service area. In some cases no more than one year ahead is forecasted while in other cases a five year forecast is included. The plan will evolve as additional information becomes available and knowledge is gained through analysis of statistics, data and workshops with the business.

This Capacity Plan provides the full structure required in the future to collect the data required to draw the conclusions upon. Most of the data is collected, but not all of it.

From the **Service Capacity Management** chapter it can be concluded that additional analysis and action is required to ensure sufficient capacity is available in the near future (within one year) for the following services:

- Since the Weblogic requests is globally taken to represent the usage of an application, special attention is needed for EBTI who is the main contributor (50%) and still grows with more than 26%. RIF as the second largest contributor is also still increasing, and ECICS2 who had the largest increase in % of requests during the past year. Investigations must be made if this growth rate will continue
- Due to these large increases it is difficult to set a threshold that could be used for capacity or monitoring alerting. Still investigations should be made, as to whether as experienced last year for VIES-on-the-Web, where a peak load of requests was caused by a hacking attack.

From the **Resource Capacity Management** chapter it can be concluded that:

- CCN/TC must evaluate the current utilization of the production gateways and evaluate what actions, if any, are required to ensure sufficient storage, memory and CPU capacity exists to support the identified growth as a result of the Business plans and the expected increase in messages.
- Several DIGIT and ITSM hosted systems, have exceeded the 70% target. Yet we must make this remark : All file-systems are monitored with standard thresholds that cause warning alerts at 80% and critical alerts at 90% disk usage. Some systems with a very constant usage, could even have higher exceptional levels set.
- DIGIT and ITSM datacenter network bandwidth is sufficient.

The most important **recommendations for improvement** identified are:

- The presence of References used, in a latest version, is useful as to have a capacity plan reflecting the actual situation.

- Work with ITSM Business Perspective Management to gain more insight in the long-term business plans as input for the Capacity Plan. Knowledge to interpret/translate business plans to IT indicators and resource requirements is limited within ITSM. This knowledge should be expanded and further developed within ITSM, both on a business and a service level. Translating business plans into concrete Capacity requirements and thus IT indicators can only be accomplished if for each Business Thread the relevant business metrics are defined and documented. These metrics are herewith defined as measurable and quantified business activities, also referred to as business indicators, which determine service usage and subsequently translate into resource metrics. Workshops with the sector must be conducted in order to define and agree to these initial business metrics. In addition, business Capacity sessions must be organised with the sector in order to establish peak windows, validate business metrics, and review current plans and deviations in plans that influence business demand;
- Operational monitoring – not all capacity aspects of resources are monitored. There is a difference of coverage between the DIGIT and ITSM hosted systems. All capacity monitoring aspects of each system should be covered by a monitoring tool. The usage of different monitoring tools makes it difficult to consolidate the statistics. Advanced monitoring tools include a database and reporting functionalities. They even have standard capacity trend reports preinstalled, and allow automated generation of all kind of reports;
- The EMC SAN, being the central storage of all servers hosted at ITSM, must at a minimum be managed with a professional tool enabling pro-active and reactive Management of components and resources. There is currently a limitation in the capability of Infrastructure Management to identify performance patterns and trends, and the ability to perform proper Capacity Planning and load balancing activities to maximise utilisation;
- Baselines should be established for each service on a service and resource level, and exceptions reported in the Capacity Plan as part of the Capacity Management activities. The baselines define the standard levels of service through targets and thresholds and are used to report exceptions against. Thresholds should be defined for all services and resources, regardless of provider or organisation responsible for management of infrastructure services, which represent utilization levels requiring action necessary to increase capacity. For example CPU utilization at 75% during peak hours for longer then one hour, network bandwidth utilisation in excess of 60% during business hours and outside of peak hours for longer than four hours, 1,000 users, 10,000 visitors per day, etc. The goal is to mitigate the risk of capacity bottlenecks before they become an issue. Specific actions should be taken early in response to increase in usage and the thresholds defined relative to the expected growth, growth rate and lead times involved for upgrades for each service and/or resource component. Contingency plans then define what actions may be taken, in response to identified capacity triggers, in hopes of reducing the impact of capacity issues not mitigated through responses to growth thresholds. It is recommended to conduct a workshop with various stakeholders, being the service providers and others, to define and agree to these thresholds. Subsequently, a project can be initiated to scope the effort and implement the thresholds where possible.

- Data from DIGIT is currently provided on an ad-hoc basis subsequently causing delays in the interpretation and analysis of the data. This can in turn delay important decision making processes involved in the prevention of escalations due to lack of identified capacity. A standard and structured approach to obtain relevant data generated by DIGIT should be developed and implemented to support the monthly delivery of the required data without having to submit separate recurring requests;
- Reflections on previous forecasts and their accuracy are included where applicable. Some forecasts based on assumptions were wrong, other could not be completely verified, due to missing statistics. Some other forecasts that were based on historical statistics were almost correct. As it was the first time that forecasts where made, continuous improvements and adjustments are needed.

5. Business Scenarios

5.1 Introduction

One of the disciplines of Capacity Management is Business Capacity Management (BCM). The primary objective of the BCM sub-process is to ensure that the future business requirements for IT Services are considered and understood, and that sufficient capacity to support the services is planned and implemented on time. Therefore business managers from DG Taxation and Customs Union need to be consulted about their business plans. This may require gaining representation at the strategic level of the organisation.

On a regular basis, the long-term strategy of the organisation is encapsulated in an update of the business plans. The organisation's business strategy and plans dictate the specific Information Technology/Information Services (IT/IS) strategy and IT/IS business plans, the contents of which Capacity Management needs to be familiar with, and to which Capacity Management needs to have had a large input. In the IT/IS specific business plans, particular technologies, hardware and software are identified, together with some indication of the timescale in which they are to be implemented.

In the case of DG Taxation and Customs Union, long term strategic vision means for example taking into account accession of new countries, which in theory may have impact on the capacity of all systems, due to the increased number of exchanged messages. Other examples are changes to legislation, a recession, political changes or entry in force of new rules that may affect the number of messages and/or users.

Capacity Management needs to understand the long-term strategy of the business while providing information on the latest ideas, trends and technologies being developed by the suppliers of computing hardware and software.

This chapter describes the major changes in the business environment which are planned for the coming three years. Business changes may trigger changes in an existing service, the initiation of a new service or the retirement of an old service. Conclusions about future capacity needs are drawn based on the information provided in this chapter combined with the information provided in chapter six and seven.

5.2 Business Plans

This paragraph gives an overview of the business plans, initiatives and events for the coming two years which to a certain extent have an impact on Capacity demand. For each Business plan there needs to be a minimum amount of information available in order to be able to draw IT conclusions on the Business information.

Business plans are delivered by the Business Perspective Management department and contain a minimum amount of information in order to be able to draw IT conclusions. Business plans can be retrieved from the project portfolio, Programme Management Office, event calendar, operational schedules (of projected workload for coming periods), National Administrations (NA s), working group meetings, monthly consolidated planning, etc.

Business forecasts are crucial for Capacity Planning and include such items as future staffing levels, new products, new investments, business growth projections. E.g. when laws and regulations are changed, this may result in a rapid increase of usage of a specific business application.

Please note that a dialog between Business Perspective Management and DG Taxation and Customs Union should be held periodically to ensure the two parties stay connected.

5.2.1 Business Plans for the Customs Business Thread

The Customs business plan information has been derived from the Multi-Annual Strategic Plan (Rev.9) [R15] and the ITSM Consolidated High Level Plan-20090305. The business plans for the Community Risk Management System are not included, nor is SPEED.

Business Plan EOS-AEO Full System	
DESCRIPTION OF BUSINESS PLAN/INITIATIVE/EVENT	The system is made available centrally for updates and download by MS, and in order to provide access to the 'master file' (trusted source of info). MS are expected to keep some info in their national systems, such as the EOS-AEO Certificate numbers, for use in the declaration processing system – a 24 hour interval for updating the information from the master file is expected. No on-line queries will be launched for any verification of an EOS-AEO (to be done on national level).
DESCRIPTION OF BUSINESS DEMAND IMPACT (VOLUMES; NUMBER OF LOCATIONS, USERS, TRANSACTIONS, ANTICIPATED WORKLOADS, ...)	All Member States.
PLANNED START DATE OF BUSINESS PLAN	1 January 2007
PLANNED GO LIVE DATE OF BUSINESS PLAN (KEY DATES FOR CRITICAL CAPACITY AND PERFORMANCE)	1 July 2009
SERVICE LEVEL REQUIREMENTS RELATED TO CAPACITY	See [R18], table 15 where there are response times mentioned for the requests from the National Systems
ADDITIONAL INFORMATION THAT SHOULD BE CONSIDERED FOR CAPACITY FORECASTING	Central EOS-AEO DB is made available to MS. Full replication mechanism is expected at National Side.

Table 5-1: Business Plan EOS-AEO

Business Plan EOS-EORI	
DESCRIPTION OF BUSINESS PLAN/INITIATIVE/EVENT	The objective of the Economic Operators' Registration and Identification System (EOS-EORI) is to establish a unique EU-wide system of identification for economic operators. The system will also allow the recognition of all the authorisations granted to the economic operators. It is an integrated Economic Operators' database covering all EOS-EORI and Authorised Economic Operator functions. This will offer maximum integration of the processes and avoid data duplication at the central level.
DESCRIPTION OF BUSINESS DEMAND IMPACT (VOLUMES; NUMBER OF LOCATIONS, USERS, TRANSACTIONS, ANTICIPATED WORKLOADS, ...)	The CDCO will have to support the data exchanges for the upload functionality, the download functionality as per the replication option selected by each MS and the consultation functionality; both the system-to-system interface and the light client functionalities will be considered. The database size will be based on the union of all existing numbers throughout the EU complemented with an estimated change rate; all MS s will be considered.
PLANNED START DATE OF BUSINESS PLAN	25 April 2006
PLANNED GO LIVE DATE OF BUSINESS PLAN (KEY DATES FOR CRITICAL CAPACITY AND PERFORMANCE)	7 January 2009
SERVICE LEVEL REQUIREMENTS RELATED TO CAPACITY	*Unknown at this stage. Remains to be investigated.*
ADDITIONAL INFORMATION THAT SHOULD BE CONSIDERED FOR CAPACITY FORECASTING	Central EOS-EORI DB is made available to MS. Full replication mechanism is expected at National Side

Table 5-2: Business Plan EOS-EORI

Business Plan DDS2	
DESCRIPTION OF BUSINESS PLAN/INITIATIVE/EVENT	The main purpose of the DDS is to provide up-to-date customs related information applicable at Community level to both the business community and Member State administrations. DDS will become an integral part of the ECIP without losing its own distinctive character as a source of specialised information.
DESCRIPTION OF BUSINESS DEMAND IMPACT (VOLUMES; NUMBER OF LOCATIONS, USERS, TRANSACTIONS, ANTICIPATED WORKLOADS, ...)	*Remains to be completed.*
PLANNED START DATE OF BUSINESS PLAN	*Unknown at this stage.*
PLANNED GO LIVE DATE OF BUSINESS PLAN (KEY DATES FOR CRITICAL CAPACITY AND PERFORMANCE)	September 2009
SERVICE LEVEL REQUIREMENTS RELATED TO CAPACITY	*Unknown at this stage. Remains to be investigated.*
ADDITIONAL INFORMATION THAT SHOULD BE CONSIDERED FOR CAPACITY FORECASTING	None

Table 5-3: Business Plan DDS2

Business Plan EBTI 3	
DESCRIPTION OF BUSINESS PLAN/INITIATIVE/EVENT	Ensure the correct issuing of all BTI s and to have a database of all applications and issued BTI s. A further evolution could result from the Modernised Customs Code when the holder of a BTI will have the obligation to apply the BTI when declaring the covered goods.
DESCRIPTION OF BUSINESS DEMAND IMPACT (VOLUMES; NUMBER OF LOCATIONS, USERS, TRANSACTIONS, ANTICIPATED WORKLOADS, ...)	*Remains to be completed.*
PLANNED START DATE OF BUSINESS PLAN	1 July 2008
PLANNED GO LIVE DATE OF BUSINESS PLAN (KEY DATES FOR CRITICAL CAPACITY AND PERFORMANCE)	31 December 2010

Business Plan EBTI 3	
SERVICE LEVEL REQUIREMENTS RELATED TO CAPACITY	*Unknown at this stage. Remains to be investigated.*
ADDITIONAL INFORMATION THAT SHOULD BE CONSIDERED FOR CAPACITY FORECASTING	None

Table 5-4: Business Plan EBTI3

Business Plan ECICS2	
DESCRIPTION OF BUSINESS PLAN/INITIATIVE/EVENT	Ensure a consistent and harmonised classification of chemical products in the EU and help customs authorities to identify chemical products With ECICS already functioning, the current initiative is an update of the system to improve its performance and add new tools according to the needs expressed by different types of users.
DESCRIPTION OF BUSINESS DEMAND IMPACT (VOLUMES; NUMBER OF LOCATIONS, USERS, TRANSACTIONS, ANTICIPATED WORKLOADS, ...)	*Remains to be completed.*
PLANNED START DATE OF BUSINESS PLAN	19 May 2008
PLANNED GO LIVE DATE OF BUSINESS PLAN (KEY DATES FOR CRITICAL CAPACITY AND PERFORMANCE)	*Remains to be confirmed.*
SERVICE LEVEL REQUIREMENTS RELATED TO CAPACITY	*Unknown at this stage. Remains to be investigated.*
ADDITIONAL INFORMATION THAT SHOULD BE CONSIDERED FOR CAPACITY FORECASTING	None

Table 5-5: Business Plan ECICS2

Business Plan TARIC 3	
DESCRIPTION OF BUSINESS PLAN/INITIATIVE/EVENT	The main purposes of TARIC 3 are: To provide to the Member States the Community data needed (interpretation, integration and codification) for automated customs clearance and To provide the business

Business Plan TARIC 3	
	community with the up-to-date tariff and commercial legislation applicable at Community Level, mainly via DDS.
DESCRIPTION OF BUSINESS DEMAND IMPACT (VOLUMES; NUMBER OF LOCATIONS, USERS, TRANSACTIONS, ANTICIPATED WORKLOADS, ...)	*Remains to be completed.*
PLANNED START DATE OF BUSINESS PLAN	2006
PLANNED GO LIVE DATE OF BUSINESS PLAN (KEY DATES FOR CRITICAL CAPACITY AND PERFORMANCE)	November 2009
SERVICE LEVEL REQUIREMENTS RELATED TO CAPACITY	*Unknown at this stage. Remains to be investigated.*
ADDITIONAL INFORMATION THAT SHOULD BE CONSIDERED FOR CAPACITY FORECASTING	None

Table 5-6: Business Plan TARIC3

Business Plan Single Authorisations for simplified procedures (EOS-SASP)	
DESCRIPTION OF BUSINESS PLAN/INITIATIVE/EVENT	The objective is to create an IT system to manage the application and consultation procedures in respect of single authorisations for simplified procedures in cases where more than one customs administration is involved. This should be introduced as an extension of the EOS-AEO Full system, given the high degree of common functionality.
DESCRIPTION OF BUSINESS DEMAND IMPACT (VOLUMES; NUMBER OF LOCATIONS, USERS, TRANSACTIONS, ANTICIPATED WORKLOADS, ...)	*Remains to be completed.*
PLANNED START DATE OF BUSINESS PLAN	11 March 2008
PLANNED GO LIVE DATE OF BUSINESS PLAN (KEY DATES FOR CRITICAL CAPACITY AND PERFORMANCE)	12 December 2010
SERVICE LEVEL REQUIREMENTS RELATED TO CAPACITY	*Unknown at this stage. Remains to be investigated.*
ADDITIONAL INFORMATION THAT SHOULD BE CONSIDERED FOR CAPACITY FORECASTING	None

Table 5-7: Business Plan EOS-SASP

5.2.2 Business Plans for the Excise Business Thread

The Excise Business Thread consists mostly out of trans-European distributed systems. The relevant Business plans are therefore not included in this document. The distributed system EMCS used by the MSA use CS/MISE as to report and initiate messages about their unavailability.

Business Plans for the Taxation Business Thread

The information in the Business Plans comes out of the Taxation Foreseen Activities 2009 – 2011 ms project file [R16].

Business Plan VIES-on-the-Web	
DESCRIPTION OF BUSINESS PLAN/INITIATIVE/EVENT	Migration to WebLogic 10.X
DESCRIPTION OF BUSINESS DEMAND IMPACT (VOLUMES; NUMBER OF LOCATIONS, USERS, TRANSACTIONS, ANTICIPATED WORKLOADS, ...)	*Remains to be completed.*
PLANNED START DATE OF BUSINESS PLAN	1 April 2009
PLANNED GO LIVE DATE OF BUSINESS PLAN (KEY DATES FOR CRITICAL CAPACITY AND PERFORMANCE)	1 June 2009
SERVICE LEVEL REQUIREMENTS RELATED TO CAPACITY	SCIT-68-SLA[A5]
ADDITIONAL INFORMATION THAT SHOULD BE CONSIDERED FOR CAPACITY FORECASTING	None
DESCRIPTION OF BUSINESS PLAN/INITIATIVE/EVENT	Batch access
DESCRIPTION OF BUSINESS DEMAND IMPACT (VOLUMES; NUMBER OF LOCATIONS, USERS, TRANSACTIONS, ANTICIPATED WORKLOADS, ...)	*Remains to be completed.*

Table 5-8: Business Plan VIES-on-the-Web

Business Plan TEDB2	
DESCRIPTION OF BUSINESS PLAN/INITIATIVE/EVENT	Complete new application
DESCRIPTION OF BUSINESS DEMAND IMPACT (VOLUMES; NUMBER OF LOCATIONS, USERS, TRANSACTIONS, ANTICIPATED WORKLOADS, ...)	*Remains to be completed.*
PLANNED START DATE OF BUSINESS PLAN	2 February 2009
PLANNED GO LIVE DATE OF BUSINESS PLAN (KEY DATES FOR CRITICAL CAPACITY AND PERFORMANCE)	*Unknown at this moment.*
SERVICE LEVEL REQUIREMENTS RELATED TO CAPACITY	SCIT-68-SLA[A5]
ADDITIONAL INFORMATION THAT SHOULD BE CONSIDERED FOR CAPACITY FORECASTING	None

Table 5-9: Business Plan TEBD2

5.2.3 Conclusions

The business events as described above do not all contain a description of the business demand impact. In cooperation with DG Taxation and Customs Union a structure needs to be setup to exchange this information on a regular basis. See chapter 8 where the recommendations for improvements are defined.

The Business plans clearly indicate changes in Capacity requirements which must be taken into account and analysed further. The current Capacity Plan reviews all Business plans which were previously listed, and should list any agreed new Business plans with a start of operation in 2010 and 2011. However, due to metrics still to be defined and lack of an in depth understanding of the changes from an IT perspective at this time, not all capacity implications are sufficiently addressed.

Information of the Business Thread Manager Customs was received on the Business Plan listed in the previous version as :

- *EOS-AEO Full System* -The system is fully operational, and no major capacity issues were encountered. This plan will therefore be removed from the next version of this capacity plan.
- *EOS-EORI* -The system is fully operational, and no major capacity issues were encountered. This plan will therefore be removed from the next version of this capacity plan.
- *Single Authorisations for simplified procedures (EOS-SASP)* -The implementation of this plan is still ongoing, no known major capacity issues yet encountered.
- *EC Information Portal (ECIP)* : Apparently no longer actual, will be removed.

Information of ITSM monitoring was received on their known status of the Business Plans listed in the previous version as :

- *DDS2* - Ongoing, only one application running so far (DDS2-TARIC), thus not yet Live for Business
- *EBTI3* - Live for Business
- *ECICS2* - Live for Business
- *TARIC3* - Ongoing, not yet Live for Business
- *VoW* - Live for Business
- *TEDB* - Live for Business
- *TEDB2* - Ongoing

Based on the current incorporated Business plans, capacity forecasting with a line of sight of one to five years is done for some service areas. The Business information, where possible, is combined with growth information either derived from available statistics and/or Business forecasts. The result is a best guess estimate of required capacity for the years to come which can be used to plan future purchasing and planning of resources to ensure the required capacity is in place at the right time and the right place to support the demand.

6. Service Capacity Management

6.1 Introduction

Service Capacity Management is about identifying and understanding the characteristics (e.g. working patterns) of each of the Business services and IT services and the demands that the users and transactions have on the underlying infrastructure including the forecast how these vary over time and might be impacted by the business changes.

The focus of Service Capacity Management is looking at the capacity aspects of the delivered services from the Customer point of view. Service Capacity Management is responsible for ensuring that the performance of all services, as detailed in the SLAs, is monitored, measured, analysed and reported and that preventive actions are being taken to anticipate any service disruption to ensure the services do meet their SLA Targets. All SLAs known are monitored and all breaches are being reported in MSR/MPR. For Capacity the known SLA is defined in SQI14 but not activated, and stated in this doc. All possible review and recommendations are listed in this plan.

This chapter provides an overview of the new or changed requirements related to service capacity and includes the projected requirements based upon Business and project plans for new or modified IT services. Aspects like end-to-end monitoring, experienced performance, number of registered users, number of business transactions, etc. are important in this context. Physical measurement information is required of course, but this should be related to the impact it has on the Service.

The full list of Commission IT Services is derived from the DG Taxation and Customs Union Technical Infrastructure Reference [R6] ITSM document which contains full overview of applications. After discussions with the Business Thread Managers, the applications and systems have been aggregated to the most useful level to be reported upon in this document. For readability the services are clustered per Business Thread. Though DDS is used by the Customs and Excise Business Threads, it is reported under the Customs thread as they are the main user of DDS.

For each service a service profile is provided which gives a short overview of the capacity related base information that should be monitored. For each service, in cooperation with the Business Thread Managers, the base measurements have been identified which indicate Volume and/or Performance. These measurements are called the Business Transactions. More specific measurements could be added in a later phase like number of registered users; number of concurrent users during the day, response times measured from the end-user point of view, etc. As many of the Resources are shared amongst multiple services, the Resource utilisation aspects are covered in chapter seven instead of per service in this chapter.

Where data is available, the data is provided and forecasting is done. In some cases reference to the MPR/MSR Monthly Service Reports [R7] is made where actual statistics are

reported. Where data is not available, a recommendation in paragraph 8.4 is made. Service Capacity Management is only performed for the Production (PROD) environments (i.e. not the Conformance (CONF) application environments or other environments). In scope of this Capacity Plan are the Production (PROD) environments and the Conformance (CONF) environments. The Conformance environments are only covered from a Resource Capacity Management point of view. Example : On resource level FITS/DEV, CS/RD-test-prod are listed. Also the mammoth server is listed and running conformance environments.

6.2 Customs Services

6.2.1 Authorised Economic Operators (EOS-AEO)

EOS-AEO Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	-
	Memory usage	BMC Patrol
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	UNIX script
	NW/bandwidth usage	CCN/TC
	Business Monitoring	CMR
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-1: EOS-AEO – Generic Information

Generic information

The main goal of the EOS-AEO system is to facilitate the management of certificates for the authorized economic operators (EOS-AEO). The system provides the facilities for the management of EOS-AEO applications submitted to a competent customs authority by an economic operator. The entire maintenance of EOS-AEO certificates is also performed in the system. It enables the registration of EOS-AEO certificates issued by the competent customs authorities when an EOS-AEO application is accepted as well as the suspension and the revocation of the EOS-AEO certificate.

The EOS-AEO as described above has been partially developed in a first phase, called EOS-AEO phase 1, to allow the issuing customs authorities to perform only a restricted set of EOS-AEO activities mainly related to the EOS-AEO applications and EOS-AEO certificates life cycle. A second phase, called the EOS-AEO full system, is foreseen to develop the missing processes and messages of the EOS-AEO trans-European system using all the possible usage modes foreseen.

The system is now known to be fully operationally. Since November 2009 ITSM Business Monitoring started reporting on the EOS daily activities.

Assumptions and restrictions

Previously a lot of assumptions were made as to estimate the workload of this application.

The application went live in 2009, however verification of all these assumptions are limited due to the fact that detailed monitoring started just in November 2009.

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- It is assumed that the EOS-AEO central IT System will have to process and store about 500 000 EOS-AEO certificates and 600 000 applications;
  - ➢ We see the number of operations on the EOS-AEO certificates in the MSR/MPR reports as of November 2009, however not the actual present number of certificates.
- The total number of the EOS-AEO online users is estimated to be 800 even if most of the time, some of them will use their national EOS-AEO IT system;
  - ➢ The current number of EOS-AEO online users registered is 909, so the previous estimation was rather accurate. (TSM-IMSE-SC06-2009-11-Annex 10 - User List.xls (included in MPR/MSR report of month 11 year 2009, Sheet user counts, col D, row 6)
- The amount of CCN asynchronous messages generated during 2008 is limited and not representative of the actual situation for the years to come. Therefore these are regarded as negligible and not taken into account.
  - ➢ The amount is of CCN asynchronous messages generated during 2009 is limited, ad therefore also negligible and not taken into account.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems			
PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-2: EOS-AEO – Capacity related Problems

No EOS-AEO problems regarding performance/capacity issues have been registered in the last year.

Business Transactions

There are two main types of information exchanges regarded as business transactions; for the information exchange between a National system and the EOS-AEO CDCO application, the exchange mechanism is CCN/CSI and the format of the IE s is XML. For information

exchange between a National system and the CS/RD system, the exchange mechanism is either CCN/CSI or the Inter(Intra)net and the format of the IE s is either EDIFACT or XML.

Business Forecast

The following business forecast is based on an extract from TAXUD/A4 – EORI-AEO – System Process Model and Requirements, Ref: EORI-AEO-SPM-REQ Ver.: 3.00-EN.

Year	2009	2010	2011	2012	2013
AEO applications submitted	240 000	180 000	72 000	36 000	36 000
AEO applications amended	48 000	36 000	14 400	7 200	7 200
AEO applications submitted or amended per day (AEO applications submitted and amended / 200 working days)	1 440	1 080	432	216	216
Prejudicial information ((AEO applications submitted - AEO certificates issued) x 20%)	8 000	6 000	2 400	1 200	1 200
Prejudicial information per day (Prejudicial information / 200 working days)	40	30	12	6	6
Mandatory consultation created or answered (AEO applications submitted x 20% x 2)	96 000	72 000	28 800	14 400	14 400
Mandatory consultation created or answered per day (Mandatory consultations created or answered / 200 working days)	480	360	144	72	72
AEO certificates issued	200 000	150 000	60 000	30 000	30 000
AEO certificates amended (AEO certificates issued x 20%)	40 000	30 000	12 000	6 000	6 000
AEO certificates issued or amended per day (AEO certificates issued and amended / 200 working days)	1 200	900	360	180	180

Year	2009	2010	2011	2012	2013
Re-assessment (2 year old AEO certificates x 80 %)	-	24 000	160 000	120 000	48 000
Re-assessment per day (re-assessments / 200 working days)	-	120	800	600	240
Mandatory consultation created or answered during re-assessment (Re-assessments x 10% x 2)	-	4 800	32 000	24 000	9 600
Mandatory consultation created or answered during re-assessment per day (Mandatory consultations created or answered during re-assessment / 200 working days)	-	24	160	120	48
Prejudicial information (certificate issued) (1 year old AEO certificates issued x 20%)	6 000	40 000	30 000	12 000	6 000
Prejudicial information (certificate issued) per day (1 year old AEO certificates issued / 200 working days)	30	200	150	60	30

Table 6-3: EOS-AEO – DG TAXUD Forecast

All these EOS-AEO applications, certificates, prejudicial information, mandatory consultations and re-assessments will be uploaded into the EOS-AEO CDCO and then extracted and transmitted to the national IT systems via the upload and EORI consultation messages where the NA EOS-AEO national application and the EOS-AEO CDCO application are exchanging messages.

The following chart presents the forecasted evolution of CCN messages until 2013. It is based on the business forecast, the number of estimated on-line users starting as of 2009 and takes into account the relevant assumptions listed earlier in the document.

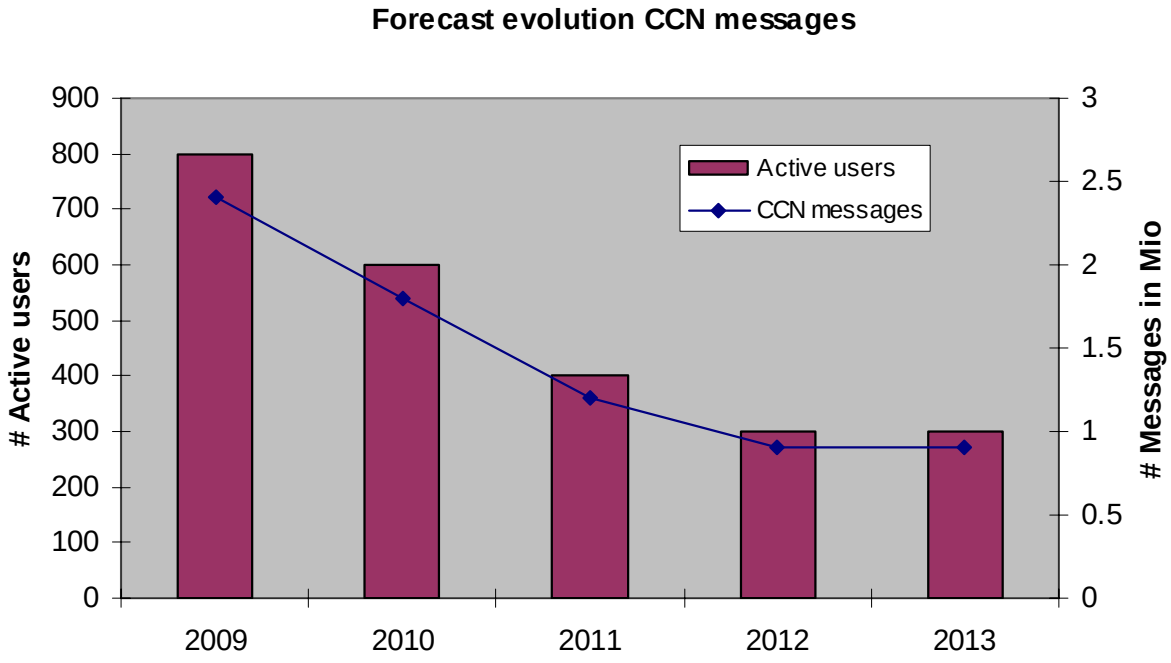


Figure 3: EOS-AEO – Forecast evolution on-line users and CCN messages per Year

Conclusion

Based on the statistics reported above, in combination with the business forecast that was made for this service, and the current existing data the conclusions are:

- EOS-AEO full went into operation in the year 2009. The forecast that was issued on the number of users is almost correct, however the calculation of the expected number of messages is rather wrong. The correlation that was made between the actual number of users and actual messages sent must be reinvestigated in order to make a better forecast.
- Usage of the light weight client and the central EOS-AEO application during 2008 has generated a total of 559424 messages with a total size of 840MB. The reported total number of asynchronous messages (system-to-system) is 13397. Source CCN traffic matrix 2008; In 2009 we see a total of 120709 messages with a total size of 151 MB, The reported number of asynchronous messages (system-to-system) is 13312. Source CCN traffic matrix 2009.

- The correlation between WEB logic requests, the actual number of on-line users and the business activities must be investigated further, and a model developed in order to determine the impact on the WEB logic server and the expected volume increase in WEB logic requests as result of the projected growth in on-line users and additional functionality; The share amount of Weblogic requests for AEO in the MSR/MPR reports, is last reported in 04/2009.

- From a service point of view, no immediate action is required, however investigation is needed if the expected peak load of 2.4Mio messages of year 2009 that was forecasted is delayed and yet still to be expected. More since the CNN reporting tool lists also EO (which refers to EOS) further investigation is needed if now all messages of EOS-AEO are also listed into this tab.

- Additionally, the impact on the EOS-AEO CDCO application, CS/RD and the WEB Logic server must be analysed further in order to confirm if these are capable of supporting the increase in service demand as per the business forecast.

6.2.2 Economic Operator's Registration and Identification System (EOS-EORI)

EOS-EORI Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	BMC Patrol (monitoring only)
	Memory usage	BMC PATROL
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	ITSM Shell scripts (reporting)
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	- E2E scenario for EOS EORI
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-4: EOS-EORI – Generic Information

Generic information

The Economic Operators' Registration and Identification System (EORI) establishes a unique EU-wide system of identification for economic operators. The system allows the recognition of all the authorisations granted to the economic operators. It is an integrated Economic Operators' database covering all EORI and Authorised Economic Operator functions; it offers maximum integration of the processes and avoids data duplication at the central level.

Assumptions and restrictions

The system is now operational however ITSM monitoring started reporting on the EOS daily activities in November 2009. The assumptions and restrictions here were listed before the start of the application. Verification of these assumptions is difficult since data gathering does not cover a whole year, extrapolation from month to year could be done is at least 3 months of data is available.

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section. They are based on the results of the EOS-EORI MS survey and other sources.

- 47 millions records of 1KB each are expected once the system becomes operational[1];
- Online consultation: 50% of the "small" NA s and 50% of the movements will use the central database to consult EOS-EORI;
  - Replication: The other NA s (the remaining 50% of the "small" NA s and the 50% of the movements) will develop their own National EOS-EORI IT system and will exchange information with the EOS-EORI Central System. All those NA s will have their national copy that they update every day with incremental downloads;
  - The EOS-EORI information will be transmitted to one national IT system per MS, i.e. 14 (half of 27) national IT systems;
  - Concerning the number of changes (insert, updates or deletes) per day to the central database:
    1. For the MS s that will choose the system-to-system upload interface, it is estimated that the number of changes/day to the central database will be 20,500;
    2. For the MS s that will choose the interactive (light client) option, the number of changes/day to the central database is estimated to be 3,500.
  - ➢ Verification of assumption : From the detailed data in the MSR report of 12/2009, displaying the actual number of operations (Fig 27), are still a bit lower than estimated, however in order to have a good reflection on this assumption made, at least 3 months of data gathering is needed.
  - The year 2009 will be a peak year for EOS-EORI registration. It is assumed that the number of EOS-EORI records will peak in 2009, when the summary declarations enter into force;
  - According to DG TAXUD, in 2010, there will be a decrease of 10% compared to 2009;
  - The evolution of the number of active users and of the number of CCN/CSI messages that they generate will follow the evolution over the years of the number of EOS-EORI records stored in the system;
  - EOS-EORI information will be transmitted to one national IT system per MS, i.e. 14 national IT systems;
  - 200 (working) days per year;
  - In 2009, an additional load of 40% is estimated;
  - When XML messages are transferred over CCN, their size becomes (is compressed) 20% of the initial size;

[1] It should be noted that some records (almost 9 million) have not been used in customs transactions in the last 36 months. However in the estimations presented in this section, these records have not been excluded from the number of total EOS-EORI records, as the worst case scenario is considered.

- The consultation is performed for three numbers per movement system declaration and each consultation message includes three numbers; hence, it is equal to the expected movement systems transactions;
- In 2009, 70% of the consultations for 2010 will take place;
- There are currently no estimations for message sizes making it difficult to do CCN message volume predictions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex 21 to the MSR [R7] the following problem overview is created:

Capacity related Problems			
PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-5: EOS-EORI – Capacity related Problems

No EOS-EORI problems regarding performance/capacity issues have been registered in the last year.

Business Transactions

As the EOS-EORI system is now operational at this stage, but detailed monitoring only started as of November 2009, there are therefore no historical records and/or past statistics to report or use for statistical analysis purposes.

Business Forecast

The CDCO will have to support the data exchanges for the upload functionality, the download functionality as per the replication option selected by each MS and the consultation functionality; both the system-to-system interface and the light client functionalities will be considered. The database size will be based on the union of all existing numbers throughout the EU complemented with an estimated change rate; all MS s will be considered.

Total number of messages – Year 2009		
A	No of messages (system-to-system)	20,500
B	No of messages (light client)	3,500
C=A+B	Total number of messages (per day)	24,000
D	Days per year	200
E=C*D	Total number of messages (per year)	**4Mio**

Table 6-6: EOS-EORI Total number of messages – Year 2009

Total number of messages – Year 2010		
A	No of messages (2009)	4Mio
B	Decrease (%)	10%
C=A*(100%-B)	Total number of messages (per year)	**3.6Mio**

Table 6-7: EOS-EORI Total number of messages – Year 2010

For the MS s that will choose the online consultation, the number of daily transactions that will be requested to the central application is 42,000.

There is a correlation between the expected movements in 2010 covering NCTS, Export Declarations, Exit Summary Declaration, Import Declarations, Entry Summary Declarations and the amount of expected consultation messages. These numbers are indicative for the estimated consultation requests per year performed by other national customs applications (verification of validity of EOS-EORI numbers as part of the declarations) and should therefore be considered as well. The following table includes an overview of the expected movement system transactions during 2010.

NCTS movements	11 255 724
Export Declarations	50 000 000
Exit Summary Declaration	21 320 145
Import Declarations	32 700 000
Entry Summary Declarations	25 565 803
Total (per year)	**140 841 672**
Total (per day)	**385 868**

Table 6-8: Estimations for the expected movement systems transactions in 2010

Conclusion

Based on the statistics reported above, in combination with the business forecast made for this service, and the current existing data the conclusions are:

- The EOS-EORI system is operational, the capacity estimates and requirements provided are based on rough figures for the anticipated load concerning the number of users and linked systems as there is not yet enough historical records and past statistics for the EOS-EORI activity;
- The WEB logic server will need to be able to support an additional daily load of 42,000 requests generated by the MSA s that will choose the on-line consultation; However the current amount based on details of December 2009 (Fig 15) reaches around 13,000 requests, we do see an average increase of about 5% increase over the last months, however the full estimated load is not yet reached.
- An average EORI message size must be established in order to determine the exact impact on the CCN backbone as a result of the increase in amount of messages. This should be done for both the CCN messages and the XML messages; After coverage of a complete year of data-gathering on the CCN messages a good evaluation can be made. Investigations must be made what exactly is included in the EO tab of the CCN statistics tool.
- From a service point of view, immediate action is required to ensure that CCN the CCN network and CCN gateway is capable of supporting the increase in service demand for capacity as per the business forecast.

6.2.3 Activity Reporting Tool (ART)

ART Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	BMC Patrol (monitoring only)
	Memory usage	BMC Patrol
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	ITSM Shell scripts (reporting)
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-9: ART – Generic Information

Generic information

The Activity Reporting Tool (ART) is the system for the exchange and consultation of information on expenses made by Member States and Candidate Countries in the framework of the Customs and Fiscalis programs. Interactive users access the system by a web application based on HTML and Java Server Pages JSP or a full-featured Swing-based Java client. The applications using TATAF can be accessed from the internet browser or have dedicated thick client Java Swing application prepared. The applications can be usually also accessed via CSI messaging. The applications based on TATAF are usually delivered either over CCN network or DG TAXUD internal network. Thin client applications use HTTP and HTTPS protocols to access the web application. Thick clients connect to the tariff application using RMI protocol. The messages are exchanged between the application and the CCN Bridge using JMS. Applications based on TATAF require Java development environment to run. All persistent data is stored in the Oracle relational database.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- There are no quantities defined for the amount of thick client users and the WEB applications;
- The thick client uses the CCN bridge to exchange messages;

- There is no correlation defined between the amount of Web Logic requests and the amount of thin client users;
- The ART participant's 2008 growth factor of 73% compared to 2007 is not likely to continue. Therefore a growth factor of 50% is used instead and extrapolated over 2009 until 2013;

➢ Verification of this assumption : Now that we have the gathered the actual statistics of 2009, this assumption was correct, however the growth factor of 50% has been adjusted to 25% and extrapolated for 2010 until 2014.

- The average size per CCN message, averaged over 2006-2007-2008, is 820 bytes. Source is CCN traffic matrix file for corresponding years;

➢ Verification of assumption : Having the actuals of 2009, we see that the average message size of year 2009 is 1104 bytes, and see over the years (2006-2009) an average growth of 20%, however the largest growth was in 2008, and this is not likely to continue. Last years growth was only 2%.

- The average calculated message growth over 2006-2007-2008 of eight percent is likely to continue and has been extrapolated over 2009 until 2013;

➢ Verification of assumption : We see an average calculated message growth over 2007-2008-2009 of 23%, we left out the year 2006 for these calculations as it is too old to be of relevance for the current seen behaviour, it would also lower down this average towards 14% which we do not find appropriate. Anticipating on this increase we used 30% in our forecast model 2010-2014.

- No WebLogic request statistics exist for the years prior to 2008;
- Business forecasts covering ART participants has not been provided and is therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-10: ART – Capacity related Problems

Business Transactions

ART supports a number of reporting obligations for the Commission and the participating countries on the activities that have been developed under the programmes. The Commission enters a number of "proposals" leading to "actions" and "events"; Member

States enter "participant" information. ART supports the evaluation of the achievement of the set objectives and the expected results on action, event and participant level.

The main Business Transaction of the Activity Reporting Tool is the "Number of ART Participants inserted as also reported in the MSR, the number of Web Logic requests generated by the application and the volume of CSI messages generated by the thick client. From the MSR [R7] and the CCN traffic matrix file, the below statistics have been collected.

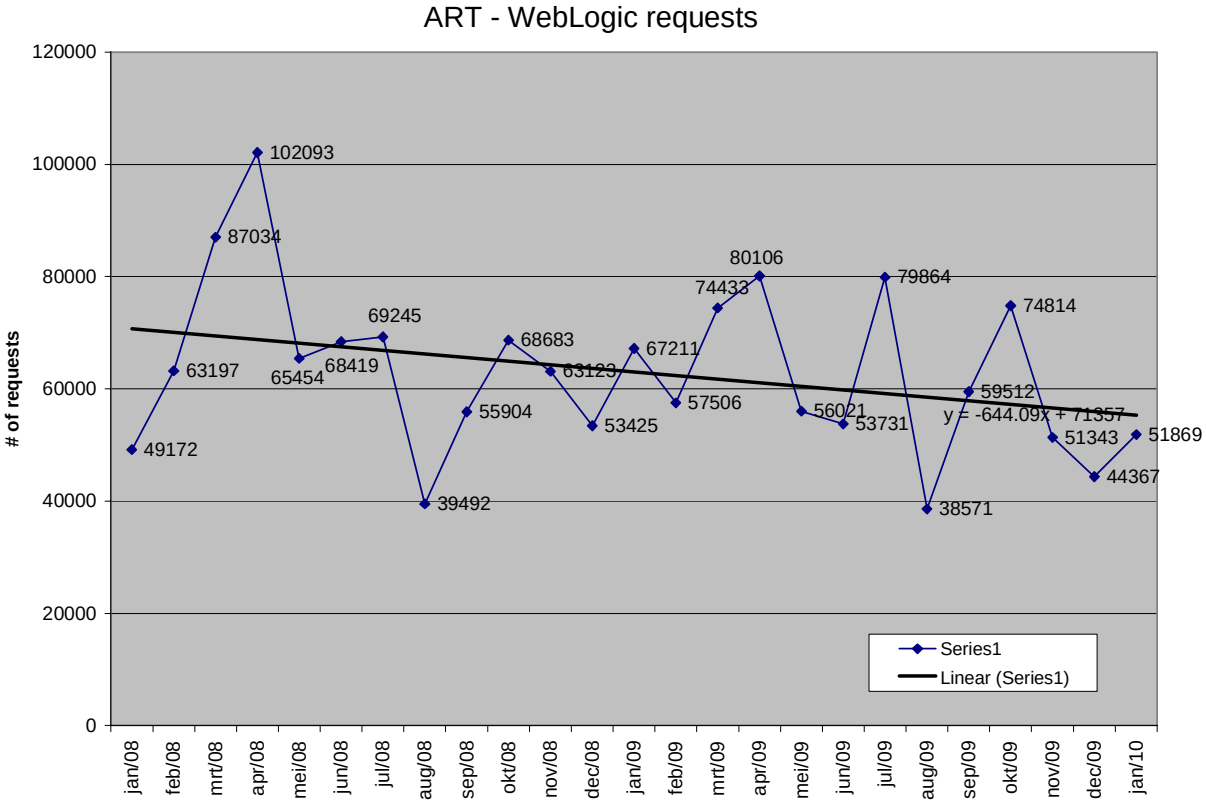


Figure 4: ART –WebLogic requests per Month –Year 2008-2009

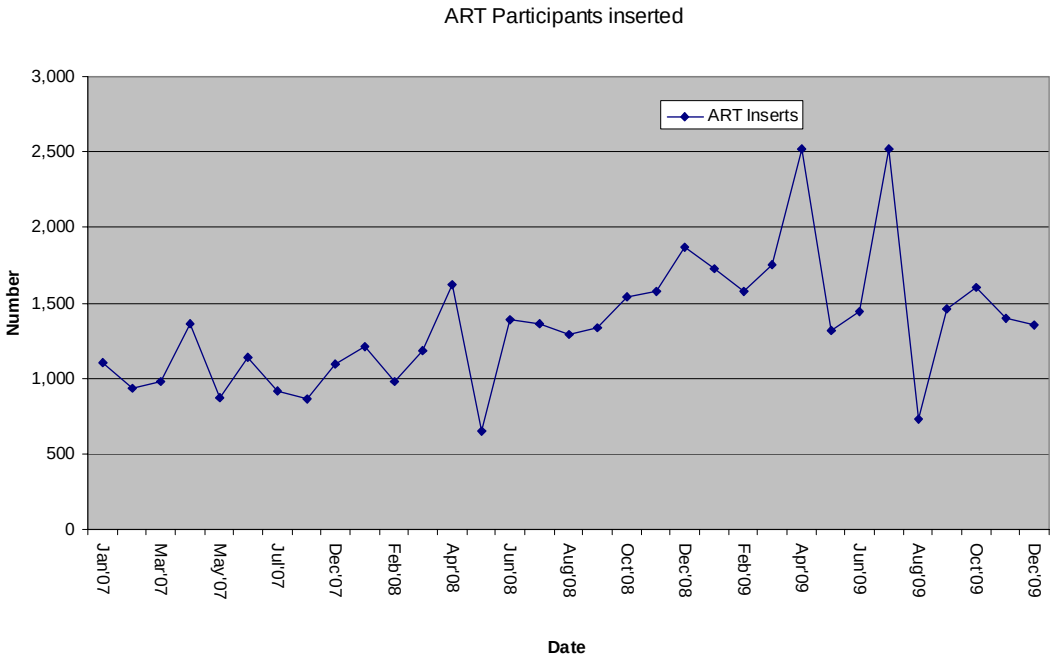


Figure 5: ART monthly insertion of participants to Customs & Fiscalis events

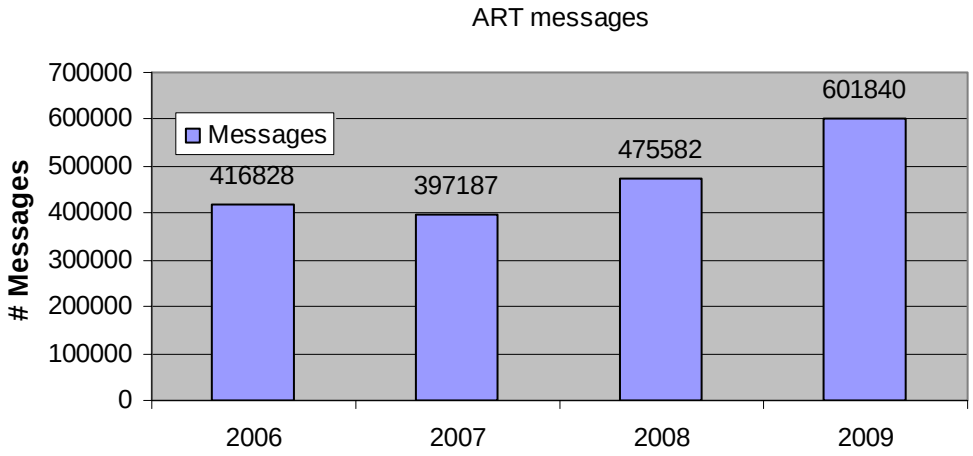


Figure 6: ART CCN messages

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document. However, based on the assumptions and the results of the analysis of the statistics the following forecast is provided for inserted ART participants

and CCN messages. These forecasts are based on the identified growth trends derived from the statistics.

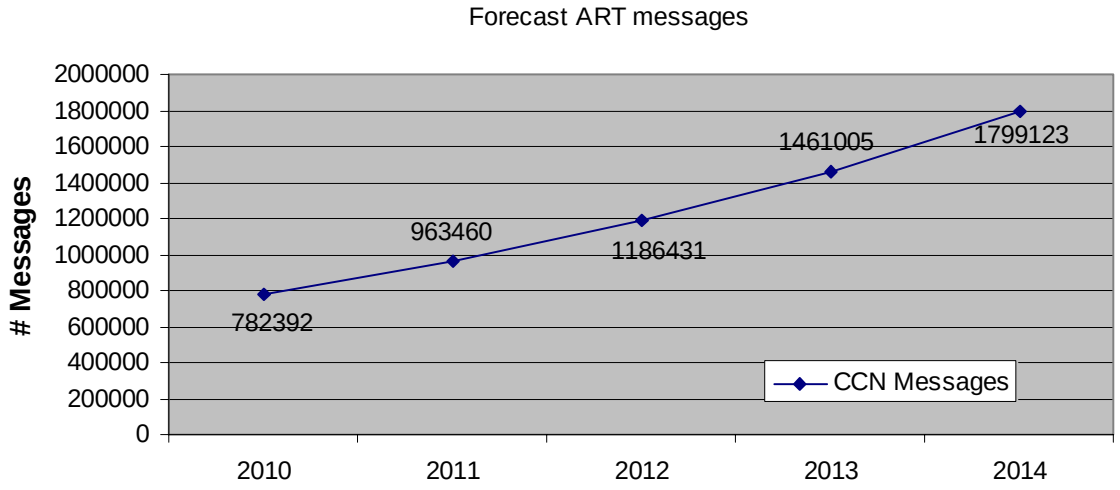


Figure 7: Forecast ART CCN messages 2010 until 2014

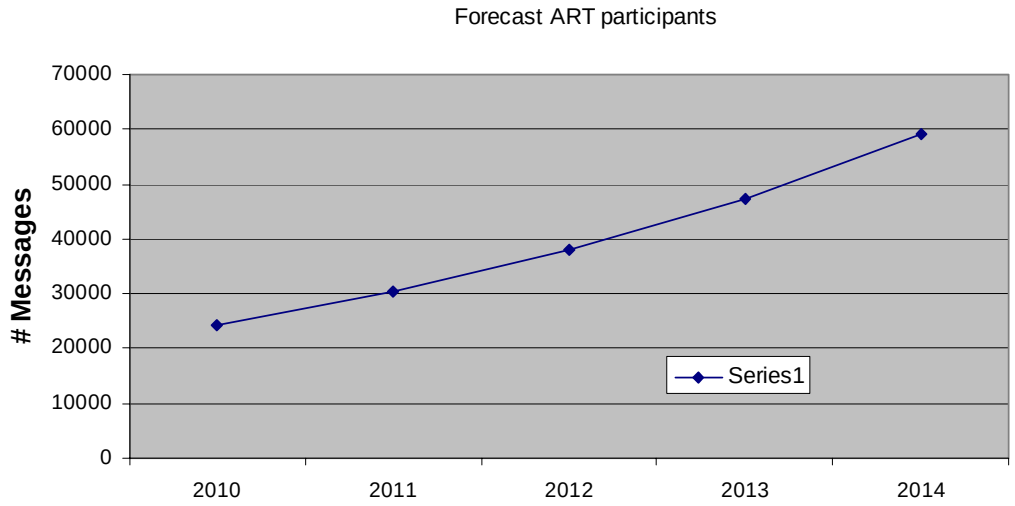


Figure 8: Forecast ART participants 2010 until 2014

Conclusion

Based on the statistics reported above, in combination with previously made business forecast for this service, and the actual data, the conclusion is:

- The forecast and requirements provided are based on calculated averages on growth rates of actual statistics, and anticipated increase in amount of messages (30%) and ART participants (25%);
- The available WebLogic statistics are now covering 2 years of data, A decline trend can be seen.. However rather fluctuating figures can be seen. Jan/10 has almost the same amount of Weblogic Requests as in Jan/08;
- The number of ART insertions is structurally increasing over time. This implies an increase in the use of the system and suggests that sufficient capacity must be available to support the anticipated organic growth in the use of the system;
- From a service point of view, actions are required to ensure sufficient capacity is available in the future for this service. We will contact CCN/TC as to verify that estimated growth can be managed.

6.2.4 Combined Nomenclature (CN)

CN Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	BMC Patrol (monitoring only)
	Memory usage	BMC Patrol
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	ITSM Shell scripts (reporting)
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-11: CN – Generic Information

Generic information

In order to monitor the flow of goods into and out of the European Union, the goods are identified with reference to a nomenclature for tariff and statistical purposes, the Combined Nomenclature. The CN consists of a table of goods descriptions with related codes together with rules and notes for its interpretation. The system facilities allow the management of the set of modifications to the document, starting from its initial version as a manuscript in electronic form up to the new publication version. The system supports versioning and translation processes. It also generates report of the impact of a set of changes, proposed or already approved, on the regulation as a whole. It is possible to export all/updated CN descriptions to TARIC.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- There are no quantities defined for the amount of thin client users and the WEB application;
- There is no correlation defined between the amount of WebLogic requests and the amount of thin client users;
- WebLogic statistics cover now 2 years of measuring data;

- Business forecast has not been provided and is therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY

Table 6-12: CN – Capacity related Problems

Business Transactions

The CN consists of a table of goods descriptions with related codes together with rules and notes for its interpretation. Usage of the Combined Nomenclature application is indicated by the number of WebLogic requests caused by this application. From the MSR [R7], the following messages statistics have been retrieved:

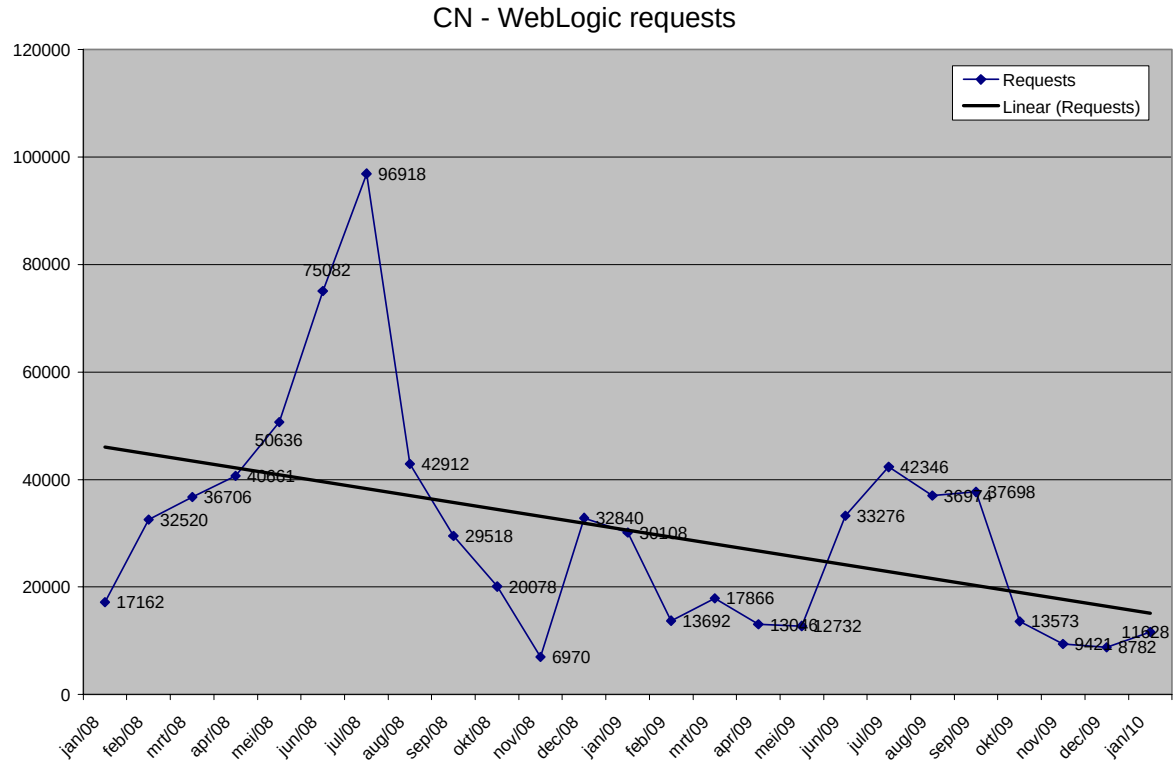


Figure 9: CN – WebLogic requests per Month

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service is currently processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- The monthly number of WebLogic requests for CN shows rather high fluctuations, but shows a declining trend. However since currently this is the only available measured metric for the service usage of this application, it suggest a 'lesser' usage of this application. However verification of this indication needs to be done with Application management.
- From a service point of view, no actions are required to ensure sufficient capacity in the future for this service.

6.2.5 Data Dissemination System (DDS)

DDS Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	BMC Patrol (monitoring only)
	Memory usage	BMC Patrol (monitoring only)
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	UNIX script
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-13: DDS – Generic Information

Generic information

The Data Dissemination System (DDS) is the public website for customs and VAT information. The system covers information coming from various TAXUD systems. For VAT information the system acts as a switch to the various national VIES systems in a transparent way. The system supports all languages including the new languages. The data on DDS are available via a feeding mechanism from applications installed elsewhere, except for VoW, including but not limited to the following applications:

- DDS Home Website (Data Dissemination Server);
- EOS-AEO (Authorised Economic Operators);
- COL (Customs Office List);
- EBTI (European Binding Tariff Information);
- ECICS (European Customs Inventory of Chemical Substances);
- Export MRN Follow-up;
- SEED (System for Exchange of Excise Data);
- SURV (Surveillances);
- SUSP (Suspensions);
- TARIC (TARif Intégré Communautaire);
- TARREP (TARIC Reports);

- TQS (Trafic Quota and Surveillance) ;
- Transit MRN Follow-up;

Note:

The application specific aspects of most of the above mentioned applications are reported elsewhere in this document under the various Business Thread specific services.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- DDS connection statistics are limited and cover only 12 months of measuring data;
- Business forecast has not been provided and is therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems			
PROBLEM ID	REGISTRATION	TITLE	INC Number
30	12-Jan	DDS error in import	INC0812.117674
33	29-Jan	DDS UPDATE NOT PERFORMED on CS/RD SIDE	INC0902.122510

Table 6-14: DDS – Capacity related Problems

The problems have a status solved, reviewing these human errors and an overload were noted as root cause.

Business Transactions

The main indicator for the DDS Business Transactions is the number of Requests. From the MSR [R7], the following messages statistics have been retrieved:

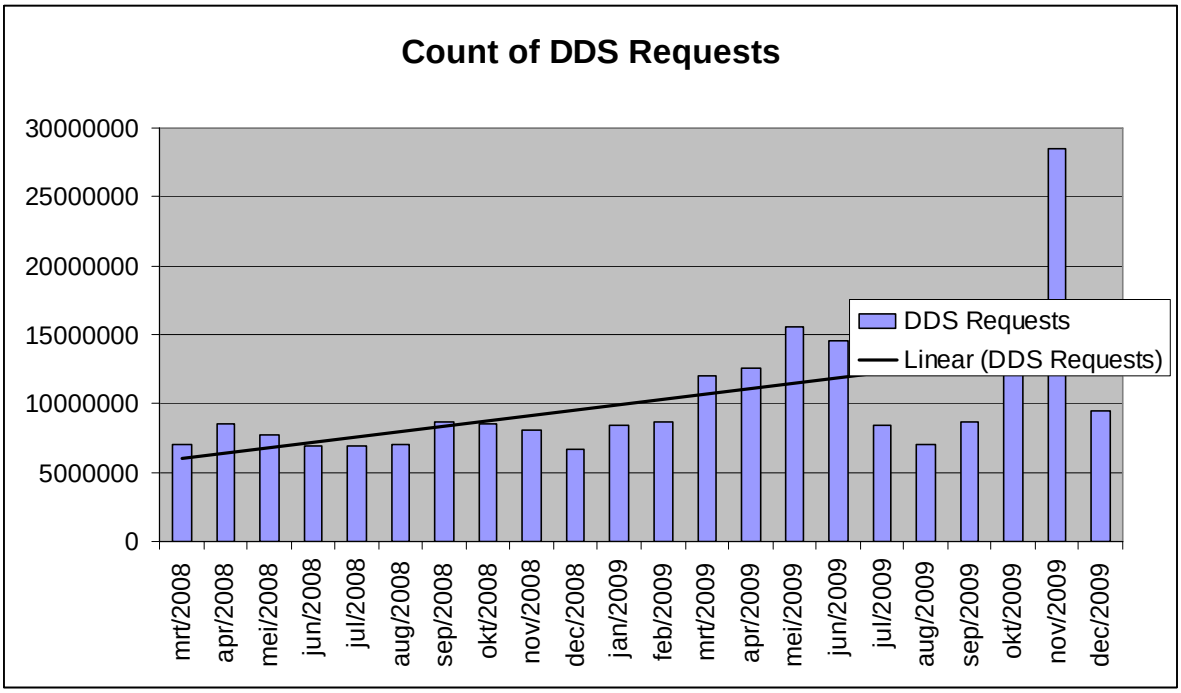


Figure 10: Evolution of the number of DDS Requests

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- At the beginning of 2008 some performance problems have been registered for DDS. These have been solved and DDS now seems to operate without any operational issues.
- We notice a remarkable peak in nov/2009. Further investigation learns the major part of these requests (88.7%) originated from TARIC. ITSM monitoring also noticed this peak load of requests and an incident was created INC0911.138675. The real root cause was a script attack from a machine within the IP range of Cambridge University. This really points out that monitoring is a fundamental issue as to gather statistics for Capacity trend analysis and forecasts. But also with the correct critical alert levels installed on certain metrics can prevent performance and capacity issues to occur.
- We notice a slightly increasing trend of the number of DDS Requests, also after adjustment of the incident of nov/2009. The average monthly increase is 6% based on year 2009.

- Due to the integration of DDS with other systems, the impact on DDS as a result of the relevant business plans must be investigated and analyzed in detail in order to determine the exact impact from a capacity perspective;
- From a service point of view, no actions are required to ensure sufficient capacity in the future for this service.

6.2.6 European Binding Tariff Information (EBTI)

EBTI Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	BMC Patrol (monitoring only)
	Memory usage	BMC Patrol (monitoring only)
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	ITSM Shell scripts (reporting)
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-15: EBTI – Generic Information

Generic information

EBTI is a system for the exchange and consultation of classification decisions by the Member States, in order to support a uniform application of tariff classification against the customs nomenclature. The European Binding Tariff Information system ensures effective management of the procedure. The system ensures the transparency of customs information and provides a guarantee of equality for the operators. It enables to facilitate and verify the classification of a good and ensures coherence of classification of the different national authorities, by searching for divergent or incorrect classifications.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- There are no quantities defined for the amount of thin client users and the WEB application;
- There is no correlation defined between the amount of WebLogic requests and the amount of thin client users;
- WebLogic statistics are limited and cover 2 years of measuring data;
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-16: EBTI – Capacity related Problems

Business Transactions

EBTI is a system for the exchange and consultation of classification decisions by the Member States, in order to support a uniform application of tariff classification against the Customs nomenclature. The centralised system stores details of all BTI s issued, it allows therefore checks at frontiers, anti-fraud checks, and a common policy for issuing BTI s. Member States update the central database of the Commission. Consequently, all Member States have the possibility to consult and/or download all BTI applications and issued BTI s.

The use of the EBTI system is indicated by the number of WebLogic requests. In addition it is useful to know that the EBTI requests are roughly responsible for 50% of all WebLogic requests. From the MSR [R7], the following statistics have been retrieved:

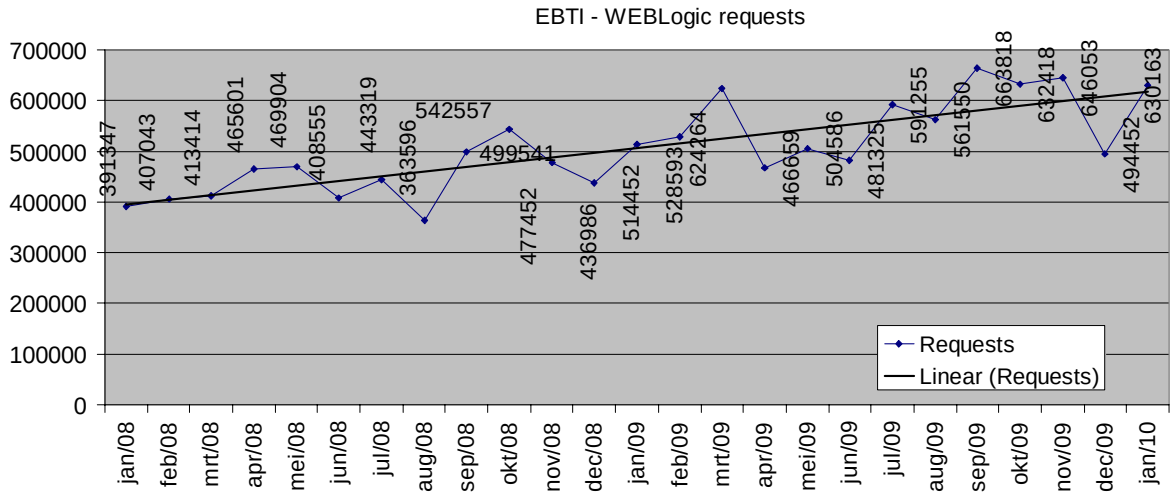


Figure 11: EBTI – WebLogic requests per Month

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- The number of EBTI WebLogic requests per month fluctuates a bit,. Reviewing the trend shows a slight increasing amount of EBTI WebLogic requests. Based on the totals of year 2009 and 2008, we noticed an increase of 26% and take into account that EBTI represents around 50% of all WebLogic requests !
- From a service point of view, action is required to ensure sufficient capacity in the future for this service exists, if we consider the same growth ratio % to continue over the coming years.

6.2.7 European Custom Inventory of Chemical Substances (ECICS2)

ECICS Generic Information	
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg
CAPACITY METRICS COLLECTED	CPU usage - Memory usage - HD space usage - DB table space usage - NW/bandwidth usage - Business Monitoring - E2E Monitoring -
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times

Table 6-17: ECICS2 – Generic Information

Generic information

The main goal of the European Customs Inventory of Chemical Substances system (ECICS) is to provide a central repository with information on chemical substances, relevant to the customs departments in order to ascertain proper control over their movements (import, export, transit). The ECICS facilitates the maintenance and consultation of the classification of chemical products, described by chemical names and synonyms in all official languages, CAS (Chemical Abstract System) references and chemical structure drawings and references to documents on the classification decision.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- The WebLogic statistics are now covering 1,5 years of measuring data;
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems			
PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-18: ECICS2 – Capacity related Problems

Business Transactions

ECICS2 is a system which contains classification decisions on chemical products. It is a centralised system which can be accessed by the NA s. A good indicator of the usage of the ECICS2 system is the number of WebLogic requests. ECICS2 provides similar functionality as ECICS but on a newer technology platform. From the MSR [R7], the following statistics have been retrieved:

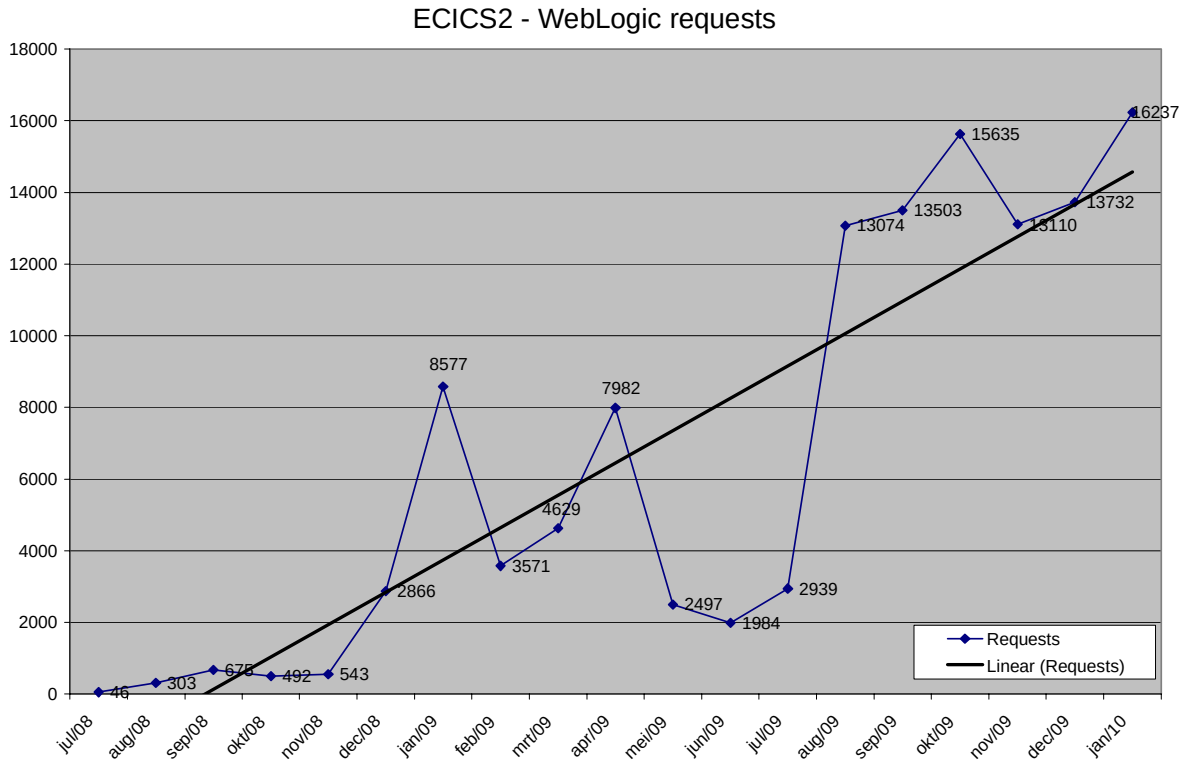


Figure 12: ECICS2 – WebLogic requests per Month

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- A significant huge increase in WebLogic requests has been registered. The largest increases happens each time around August and again at the end of the year. These increases seems to be structural.
- The absolute number of WebLogic requests from the ECICS2 application started very low compared to the total number of WebLogic requests from all applications combined, but now already represents around 8% of the total of the overall WebLogic statistics, this increasing percentage of 2055% of the last year.
- From a service point of view, action is required upon ensuring sufficient capacity in the future is available for this service.

6.2.8 Inward System for Processing Procedures (ISPP)

ISPP Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	-
	Memory usage	BMC Patrol (monitoring only)
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	ITSM Shell scripts (reporting)
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-19: ISPP – Generic Information

Generic information

The inward processing arrangements allow Community operators to be relieved from import duties for components imported from third countries with a view to being processed in the Community and subsequently re-exported. Inward processing is categorized as a customs procedure with economic impact. ISPP is the centralised system which currently manages the information concerning the IPR (Inward Processing Relief) authorisations. Member States update the central database of the Commission. Consequently, all Member States have the possibility to consult and/or download all disseminated cases guaranteeing the transparency of the procedure.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- The WebLogic statistics cover now 2 years of measuring data;
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-20: ISPP – Capacity related Problems

Business Transactions

A good indicator of the usage of the ISPP system is the number of WebLogic requests. From the MSR [R7], the following statistics have been retrieved:

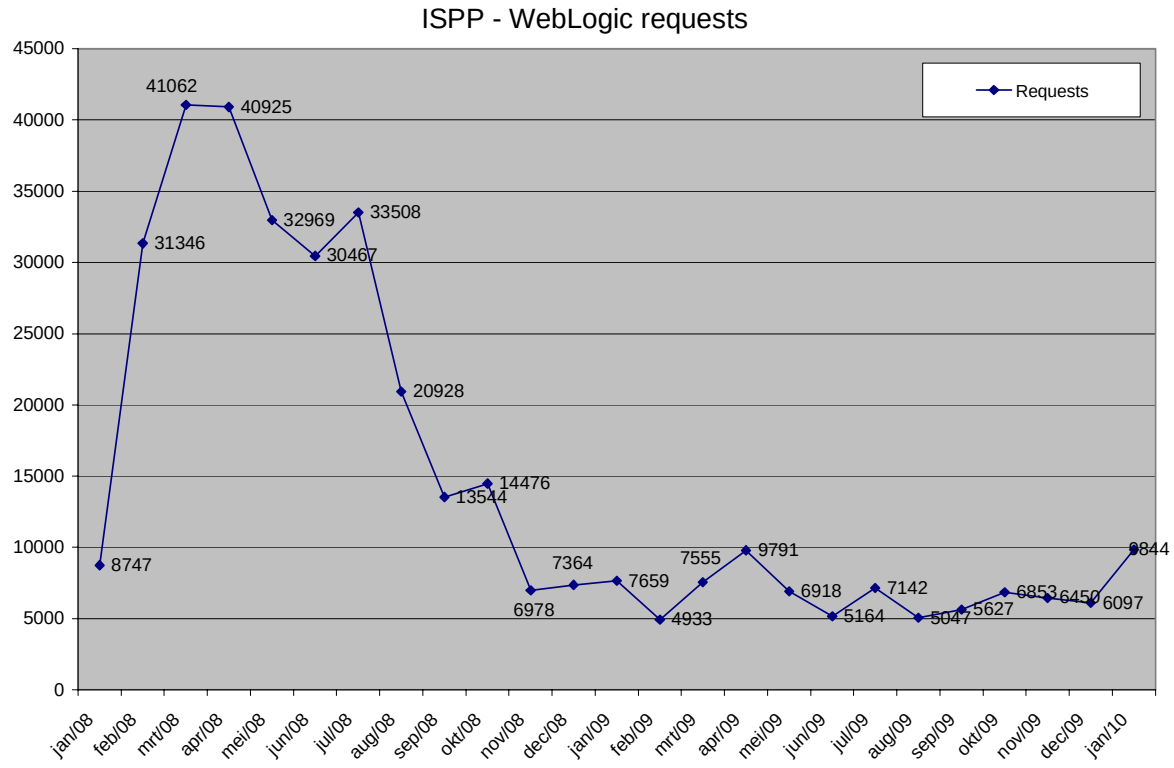


Figure 13: ISPP – WebLogic requests per Month

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- The current statistics indicate a declining trend in the use of the ISPP system, this decline was rather huge in 2008, however in 2009 it stabilized again. Due to the large fluctuations it makes it difficult to draw a firm conclusion upon future requirements for this system.
- From a service point of view, no actions are required to ensure sufficient capacity in the future for this service.

6.2.9 CRMS (formerly Risk Information Forms (RIF))

RIF Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	-
	Memory usage	BMC Patrol (monitoring only)
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	ITSM Shell scripts (reporting)
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-21: RIF – Generic Information

Generic Information

The RIF is an essential element in the strategic development and implementation of a standard Risk Management Framework in the customs services of the European Union. The purpose of RIF is to ensure the management of risk information and the exchange of risk information between National Risk Analysis Centres (NRAC s - including DG TAXUD) and Customs Offices (COs, i.e. ports, airports…) in the Member States. Simple and easy to use forms dealing with routine control concerns must be exchanged rapidly between NRAC s and COs. NRAC s and COs are able to create risk information forms and feedbacks.

Remark : The above info will be updated as to reflect actual CRMS (Community Risk Management System) info as described in the architecture list when formerly approved.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- The WebLogic statistics cover now 2 years of measuring data;
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-22: RIF – Capacity related Problems

Business Transactions

RIF is an efficient, fast and simple centralised exchange system for risk information. RIF contains simple and easy to use forms dealing with routine control concerns that must be exchanged rapidly between National Risk Analysis Centres (NRAC s - including DG TAXUD) and Operational Contacts (OC s, i.e. ports, airports,…) in the Member States. A RIF should raise the awareness of the concerned parties with regard to goods which could pose a threat to health or safety of citizens and other potential irregularities (e.g. false declaration, counterfeit goods). The use of the RIF system is indicated by the number of WebLogic requests and the number of RIF's registered per month.

From the MSR [R7], the following statistics have been retrieved:

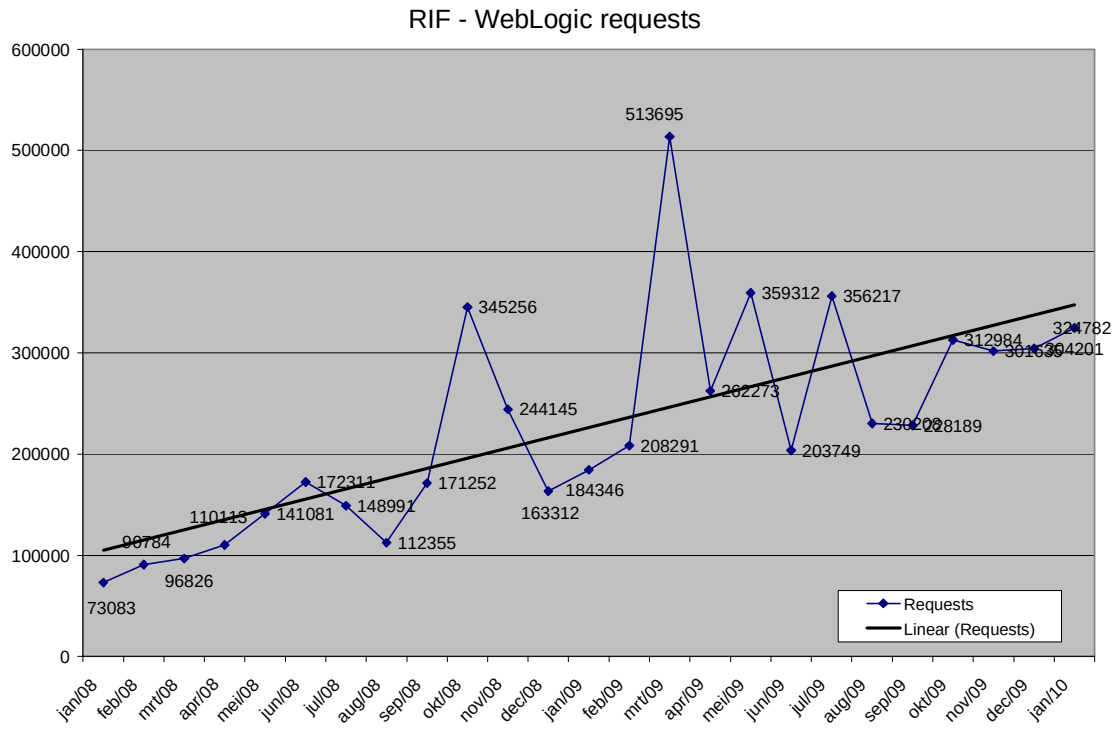


Figure 14: RIF – WebLogic requests per Month

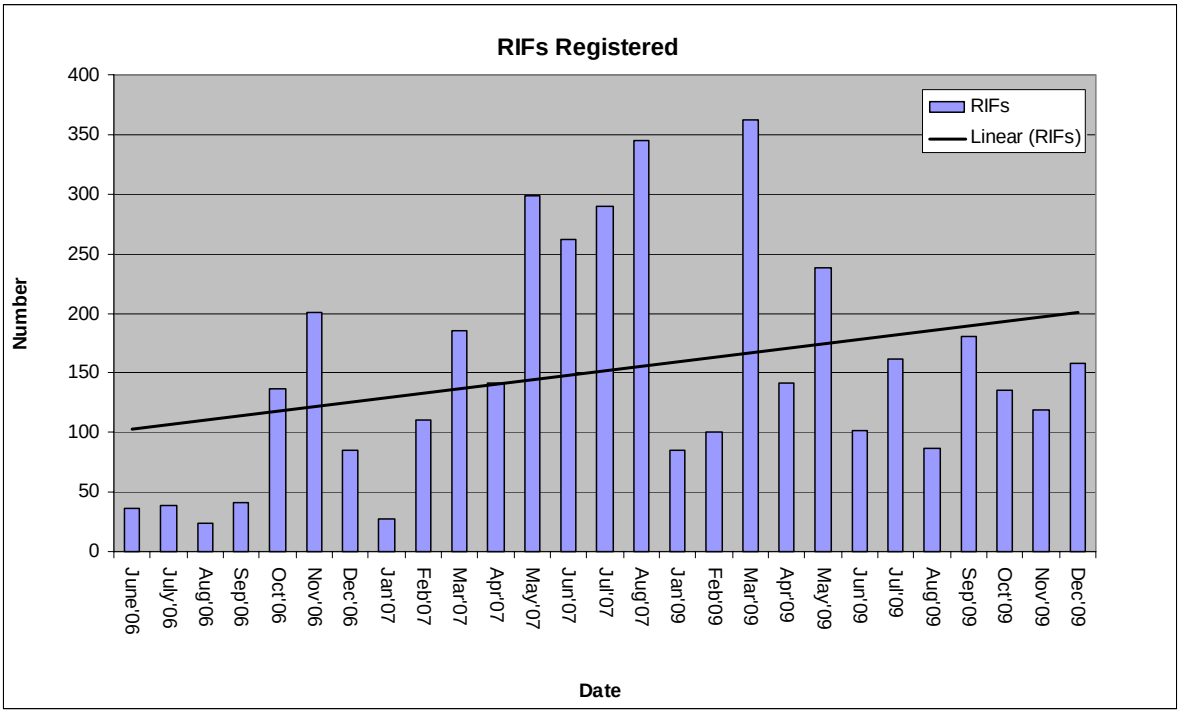


Figure 15: RIF - Risk Information Forms inserted per month

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- Based on the current trend an increase of approximately 350,000 WebLogic requests per annum can be expected; RIF's Weblogic Requests are accountable of 25% of the total number, and is after EBTI the second largest contributor too the total amount of Weblogic Requests.
- The number of RIF s registered over the last two and a half years shows a slight increase and a lot of fluctuation on a month to month basis with no apparent usage pattern;
- Action is required. From a service point of view it would be good to analyse the increase of WebLogic requests and ensure the appropriate follow-up action is taken to ensure sufficient capacity in the future for this service.

6.2.10 Specimen Management System (SMS)

SMS Generic Information		
HOSTED AT/ MANAGED BY	XXX	
CAPACITY METRICS COLLECTED	CPU usage	-
	Memory usage	BMC Patrol
	HD space usage	BMC Patrol
	DB table space usage	-
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-23: SMS – Generic Information

Generic information

The purpose of the specimen Management system is to disseminate specimen information quickly and accurately throughout the Community and its partner countries. Issuing bodies send their data on paper and Commission staffs captured it, validates and enters information into the system. Various information about the specimen such as name, image, validity period, incident reports etc. is stored in the database. Inquiries can be performed on the information according to various criteria, both by the Commission staff and the National Administrations.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- The WebLogic statistics cover now 2 years of measuring data.
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-24: SMS – Capacity related Problems

Business Transactions

The usage of SMS is indicated by the number of WebLogic requests per month and evolution in the total number of stamps. From the MSR [R7], the following statistics have been retrieved:

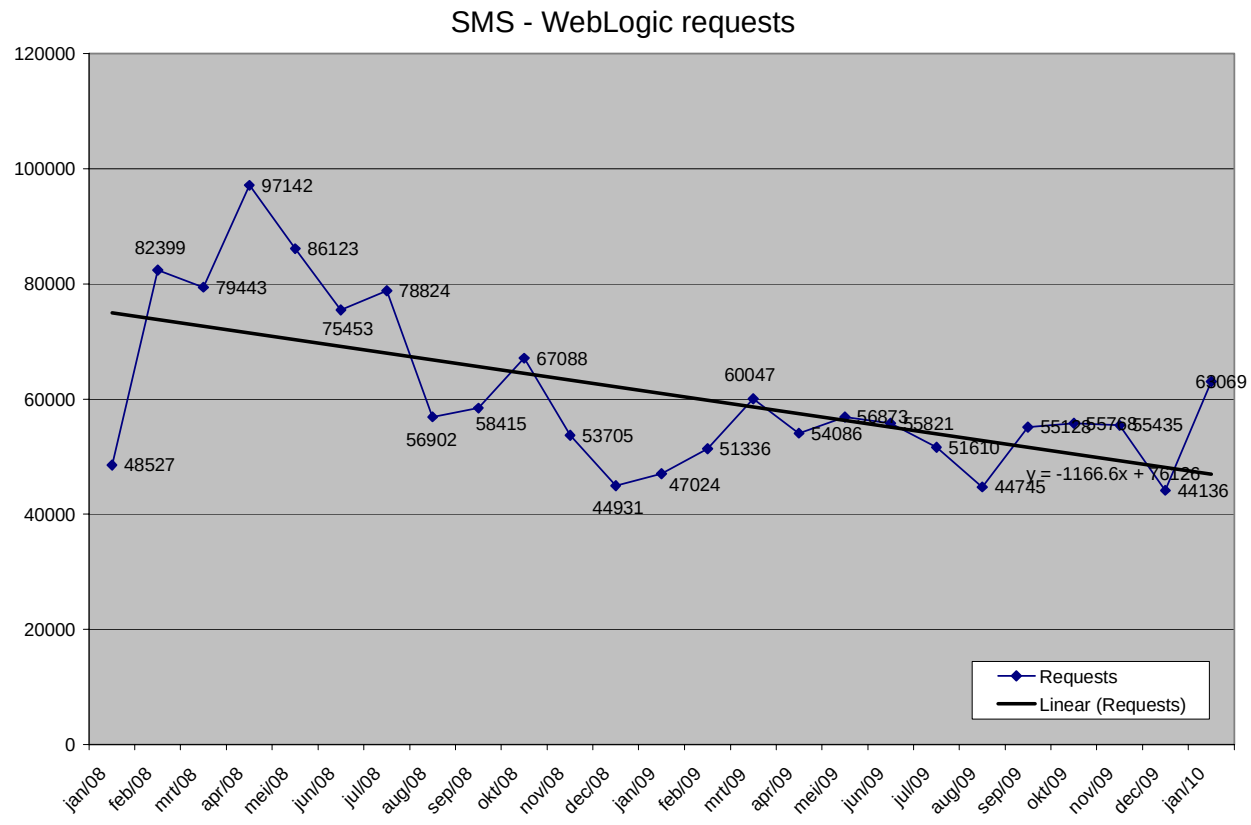


Figure 16: SMS – WebLogic requests per Month

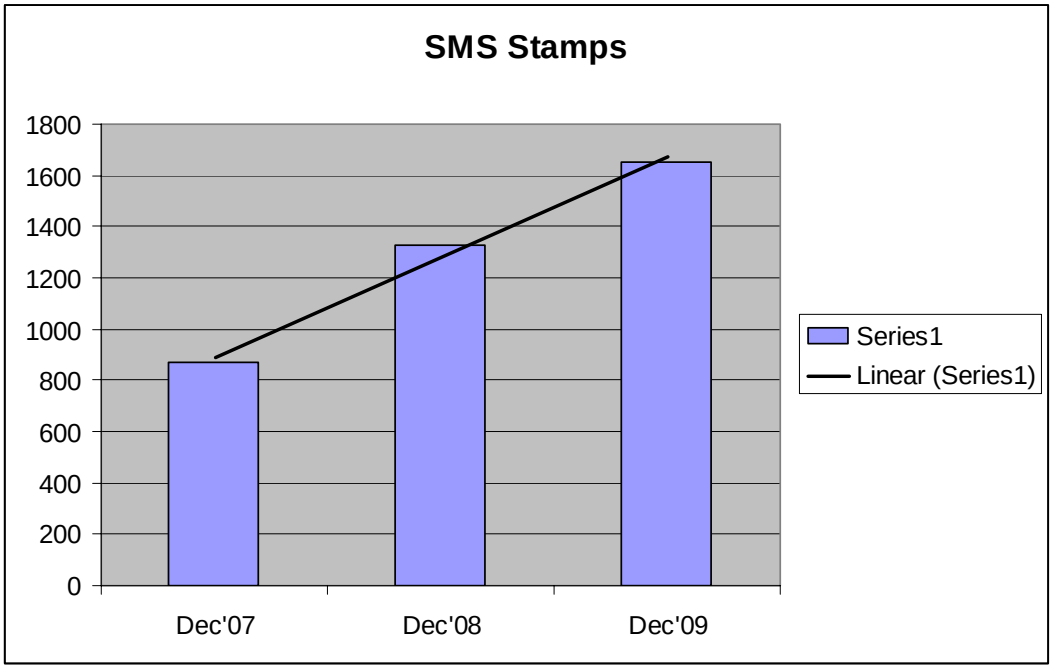


Figure 17: Total existing SMS stamps

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- Based on the current trend of the WebLogic requests on the past 2 years of data, we see a declining trend.
- The total number of SMS stamps are steadily increasing. The details of the main contributors with the main contributor being Transit and Origin can be found in the MSR reports.
- From a service point of view, action is required to ensure sufficient capacity in the future for this service exists to support the growth in SMS stamps.

6.2.11 Surveillance 2 (SURV)

SURV Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	-
	Memory usage	BMC Patrol (monitoring only)
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	ITSM Shell scripts (reporting)
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-25: SURV – Generic Information

Generic Information

The SURVEILLANCE application enables European Commission to supervise the imports and exports for particular products. The Member States are able to send directly statistical information coming from an import or export transaction after the declaration has been finalized for the goods under surveillance.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- The WebLogic cover now 2 years of measuring data.
- The XML message statistics are limited and cover only 20 months of measuring data.
- WebLogic December statistics are not complete, data is missing starting December 2008 until September 2009.
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
50	03-2009	No update of SURV2 on DDS Root Cause Analysis shows : Surv2 scheduled Task DDS export fails to complete after 24 hours and 17 minutes run. Due to this failure, DDS -SURV2 is not updated. The job has a lengthy duration during the week of over 24 h but the timeout on the transaction is set to 24hs. -> assignment to CUST-DEV	CUST.APPSRV

Table 6-26: SURV – Capacity related Problems

Business Transactions

The SURVEILLANCE 2 application enables the European Commission to supervise the imports and exports for particular products. The Member States are able to send directly statistical information coming from an import or export transaction after the declaration has been finalised for the goods under surveillance. Usage of the application is indicated by the number of WebLogic requests and the number of XML messages generated for this application. From the MSR [R7], the following statistics have been retrieved:

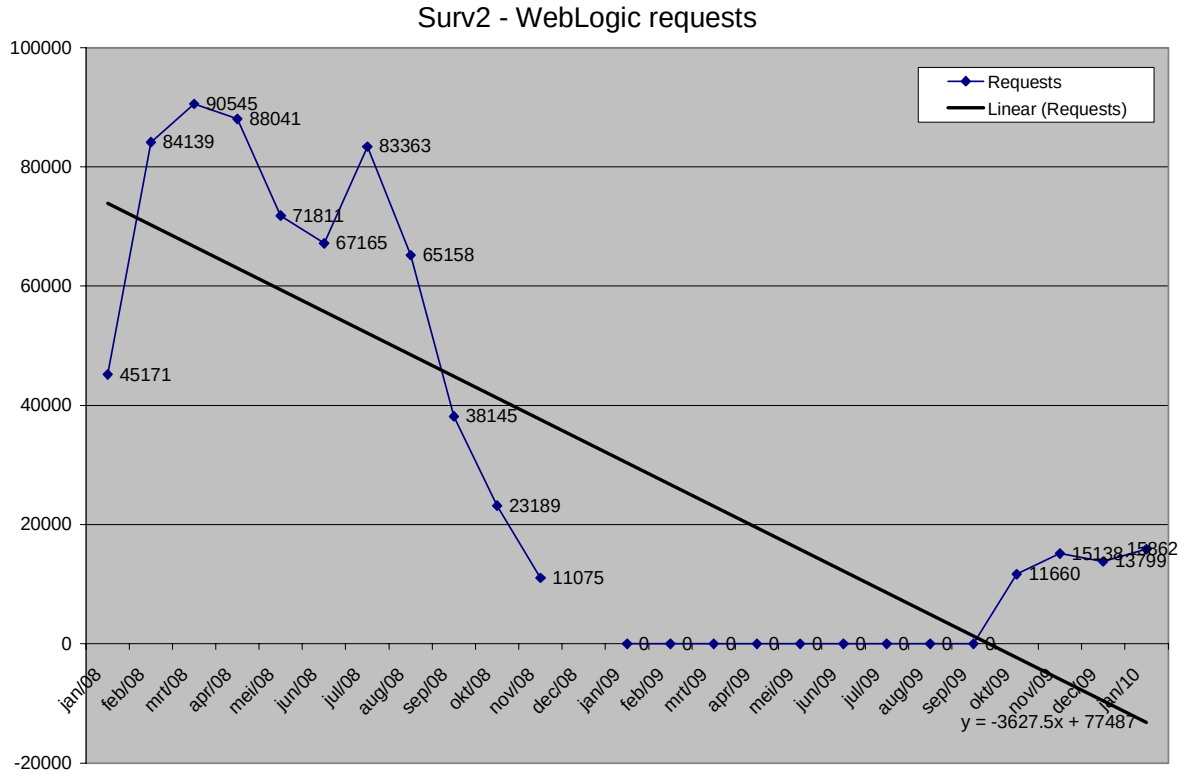


Figure 18: SURV2 – WebLogic requests per Month

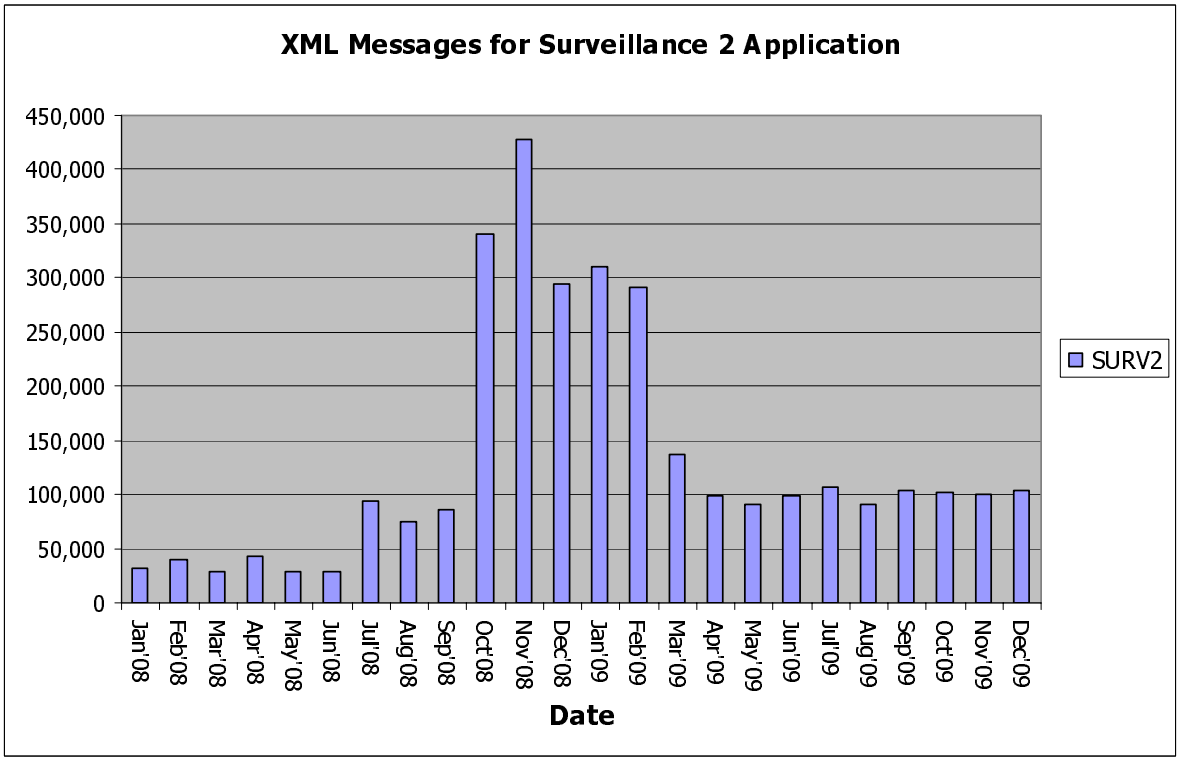


Figure 19: Number of messages exchanged for Surveillance2

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- The WebLogic statistics show a strong decline in the amount of requests as of July 2008. This decline appears to be structural and continues, although the gap in the statistics the graph shows a significant lesser usage of the system.
- The number of XML messages has grown significantly as of October 2008 but became stable as of April 2009. The previous expected growth based on the values of 2009 did not come. Therefore only graph interpretation is not enough support info of application management is needed to explain sudden growths or decreases
- No actions are required to ensure sufficient capacity in the future for this service. The impact of the XML message growth on the underlying IT Infrastructure needs to be assessed and appropriate expansion of the infrastructure needs to be foreseen.

6.2.12 Suspensions (SUSP)

SUSP Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	-
	Memory usage	BMC Patrol (monitoring only)
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	ITSM Shell scripts (reporting)
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-27: SUSP – Generic Information

Generic Information

The Suspensions system supports the legislative work for regulations covering the suspensions of autonomous tariff duties and quotas for certain products. The Suspensions system facilitates the management and consultation of suspensions and provides a tool for the publication of the suspension regulation in the official journal. It also generates working documents, which are discussed with Members States administrations during the preparation of such a regulation.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- The WebLogic statistics cover now 2 years of measuring data;
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems			
PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-28: SUSP – Capacity related Problems

Business Transactions

Usage of the SUSP system is indicated by the number of WebLogic requests. From the MSR [R7], the following statistics have been retrieved:

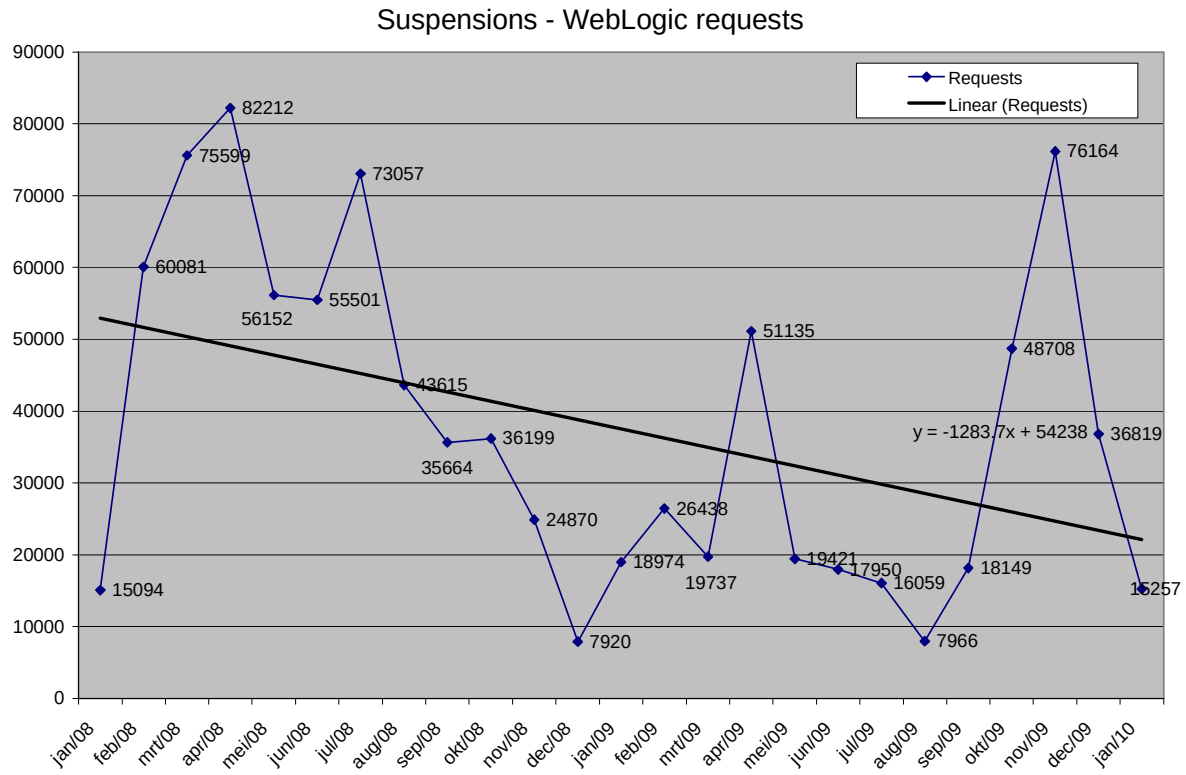


Figure 20: SUSP – WebLogic requests per Month

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- The monthly number of WebLogic requests for SUSP seems to fluctuate a lot; no clear usage pattern can be identified. The huge fluctuations make it difficult to draw a firm conclusion upon future requirements for this application;
- The current statistics indicate a decline in the amount of WebLogic requests of 35% per year;
- From a service point of view, no actions are required to ensure sufficient capacity in the future for this service.

6.2.13 TARif Intégré Communautaire(TARIC) (Customs Tarifs)

TARIC Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	BMC Patrol
	Memory usage	BMC Patrol
	HD space usage	BMC Patrol
	DB table space usage	-
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-29: TARIC – Generic Information

Generic Information

TARIC (TARif Intégré Communautaire) is the integrated customs tariff of the European Community (EC). TARIC includes customs measures for the European Economic Community (EEC), the European Atomic Energy Community (EURATOM), and the European Coal and Steel Community (ECSC), and a supporting goods classification maintained in all nine Community languages. Most of the TARIC measures are tariff or non-tariff customs measures to support the import of goods.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- No business transaction statistics for TARIC could be found;
- Business forecasts have not been provided and are therefore not taken into account.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems			
PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-30: TARIC – Capacity related Problems

Business Transactions

No business transaction information regarding TARIC could be retrieved from the MSR [R7].

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Because the business transaction data for TARIC is missing the conclusion is:

- From a service point of view, no conclusion can be drawn to ensure sufficient capacity in the future for this service;
- Action is required to ensure that the collection of business data and expectations on TARIC will be implemented rapidly (see also recommendation in chapter 8)

6.2.14 TARif Intégré Communautaire Reports (TARREP) (TARIC Reports)

TARIC Reports Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	-
	Memory usage	BMC Patrol (monitoring only)
	HD space usage	BMC Patrol (monitoring only) ITSM Shell scripts (reporting)
	DB table space usage	ITSM Shell scripts (reporting)
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-31: TARREP – Generic Information

Generic information

TARIC reports application replaces and expands the reporting capabilities provided originally by TARIC application. The application allows the reporting of some data related to control reports (used for controlling/verification of the manual/automatic data capturing), information reports (for listing of the captured data), and Management report (used for reporting of the communication with Member States).

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- The WebLogic statistics cover 2 years of measuring data;
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
49	24/03/2009	TARIC Manual extraction Issue Root Cause : The fact to not add an extraction period, increment the sequence number, so the next main extraction is not the one awaited by the Member State	CUST.TARIC

Table 6-32: TARREP – Capacity related Problems

Business Transactions

Usage of the application is indicated by the number of WebLogic requests. From the MSR [R7], the following statistics have been retrieved:

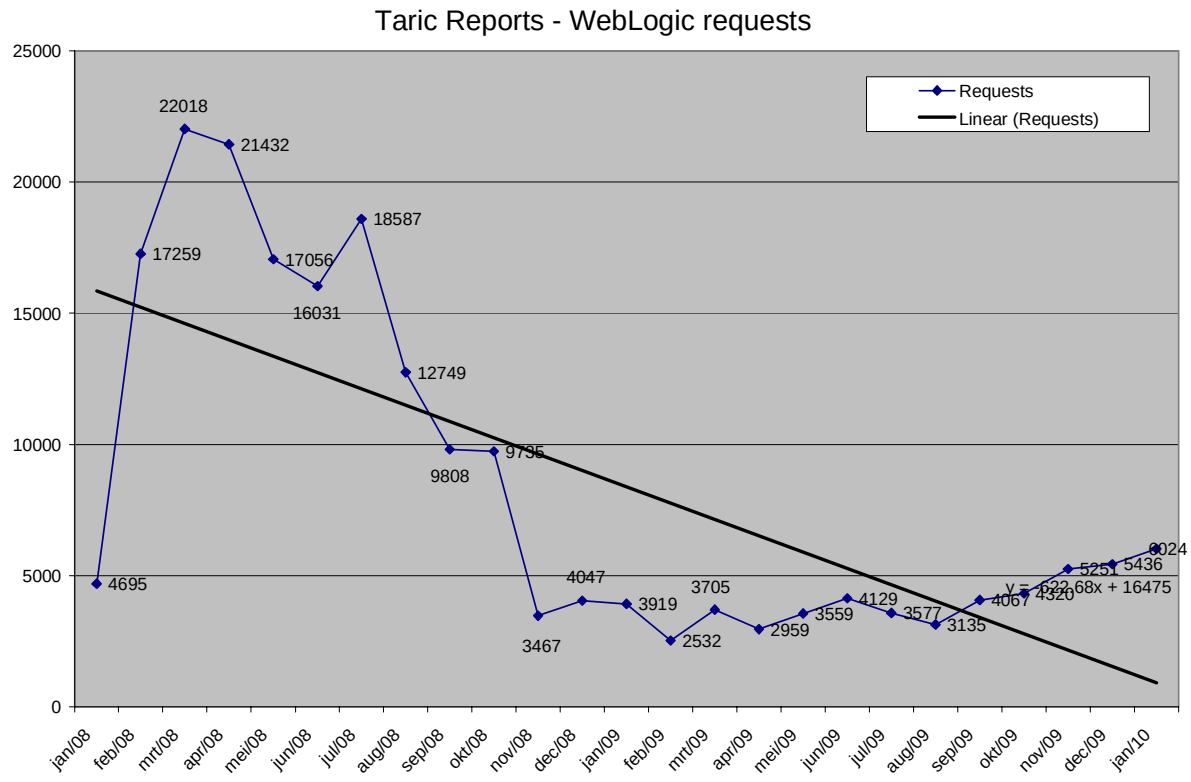


Figure 21: TARREP – WebLogic requests per Month

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- Year 2009 shows a steadier amount of requests per month, this in contradiction with year 2008, where rather some fluctuations were seen but with a declining trend.
- Based on last years statistics the graph shows a small but steady increase in the amount of WebLogic requests per month, which is very likely to continue.
- From a service point of view, no actions are required to ensure sufficient capacity in the future for this service.

6.2.15 Trafic Quota and Surveillance (TQS)

TQS Generic Information		
HOSTED AT/ MANAGED BY	XXX	
CAPACITY METRICS COLLECTED	CPU usage	-
	Memory usage	BMC Patrol
	HD space usage	BMC Patrol
	DB table space usage	-
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-33: TQS – Generic Information

Generic information

The TQS2 application supports the daily processing of the customs declarations concerning a tariff quota. The tariff quota is any pre-set value or quantity of given goods, which may be imported during a specified period with a reduction of the normal customs duties and beyond which any additional quantity of these goods can be imported by paying normal customs duties. Importers wishing to benefit from tariff quotas must make a quota drawing request in accordance with Community and national requirements.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- The WebLogic and Quota Message statistics cover 2 years of measuring data;
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-34: TQS – Capacity related Problems

Business Transactions

Usage of the application is indicated by the number of WebLogic requests and the number of Quota messages received for this application. From the MSR [R7], the following statistics have been retrieved:

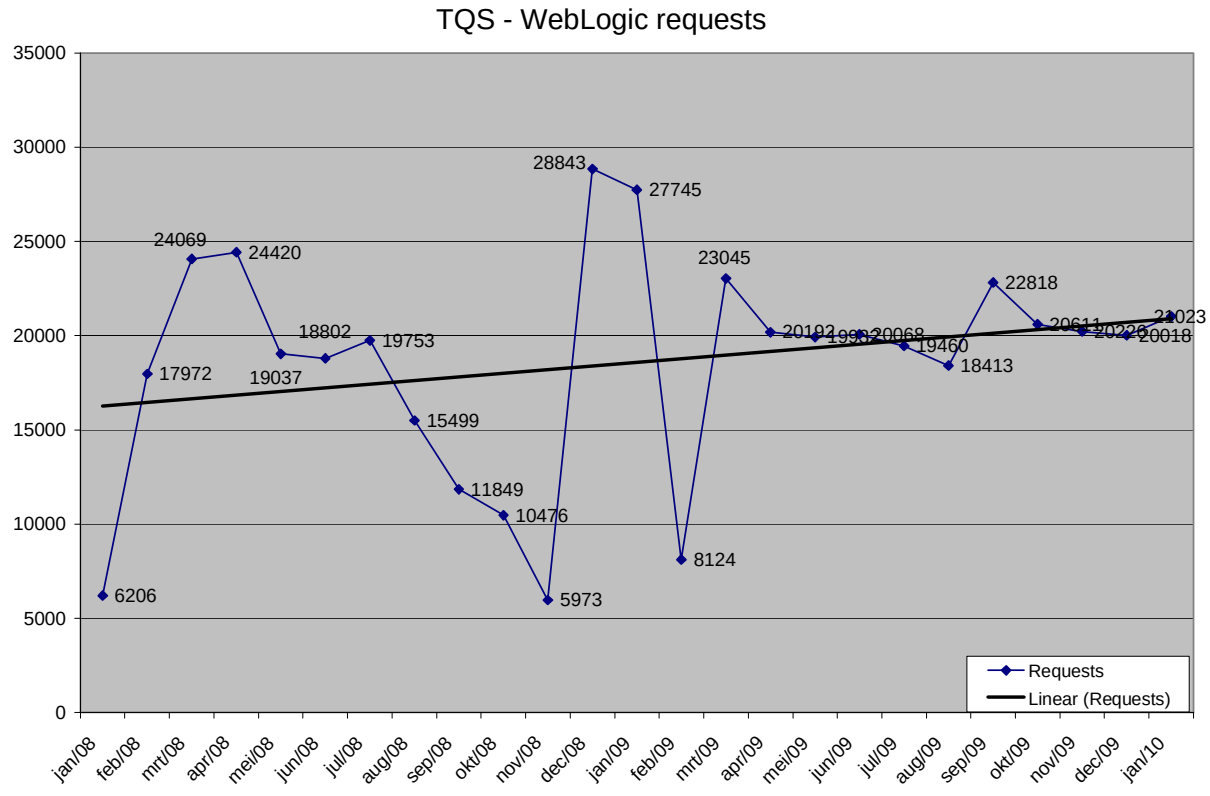


Figure 22: TQS – WebLogic requests per Month

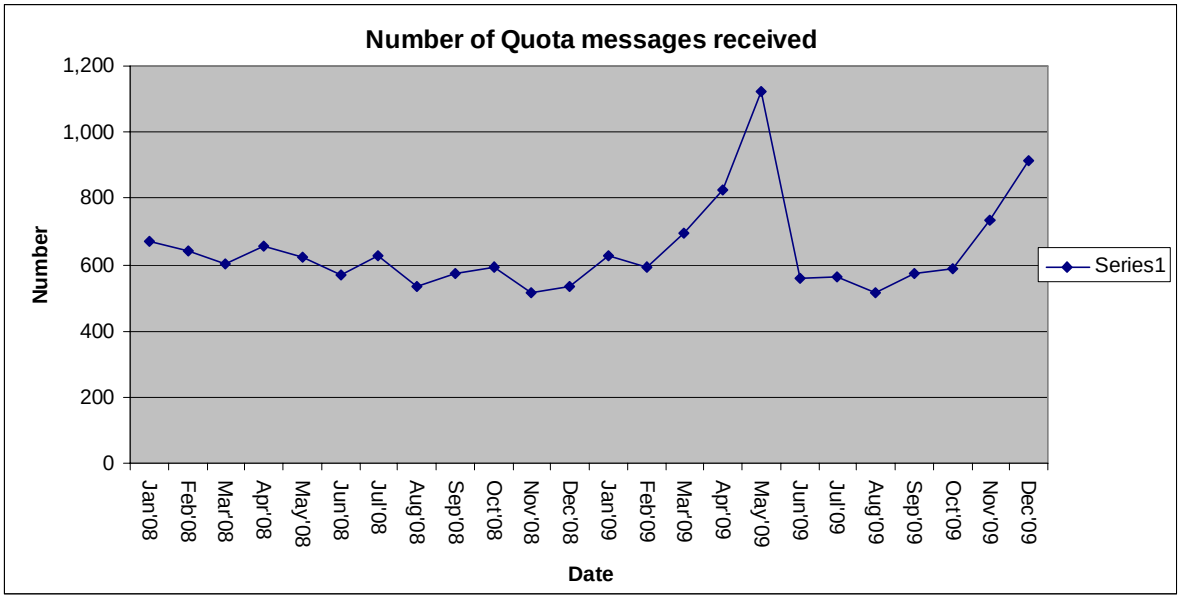


Figure 23: Quota messages received per month

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- No performance issues with this service were identified during 2009 in contradiction with 2008.;
- The number of WebLogic requests shows some significant fluctuations from month to month, no clear usage pattern or trend can be identified at this stage due to the limited amount of available statistics;
- The number of Quota messages received was stable in 2008, but seems to fluctuate more in 2009.
- From a service point of view, no actions are required to ensure sufficient capacity in the future for this service.

6.2.16 Single Portal for Entry or Exit of Data (SPEED)

SPEED Generic Information		
HOSTED AT/ MANAGED BY	XXX	
CAPACITY METRICS COLLECTED	CPU usage	Nagios
	Memory usage	Nagios
	HD space usage	Nagios
	DB table space usage	SCOM/QMP
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-35: SPEED – Generic Information

Generic Information

SPEED enables automated data exchange between MS electronic customs systems and third countries on the basis of EU bilateral or multilateral agreements. This planned automated exchange of information is envisaged only with countries outside the EU, such as e.g. China, Russian Federation and USA.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- SPEED went into production in January 2009.
- Business forecasts have not been provided and are therefore not taken into account.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-36: SPEED – Capacity related Problems

Business Transactions

The amount of IE messages exchanged is a good indicator of the use of SPEED. These are defined as the business transactions. The following statistics have been retrieved from the MSR [R7].

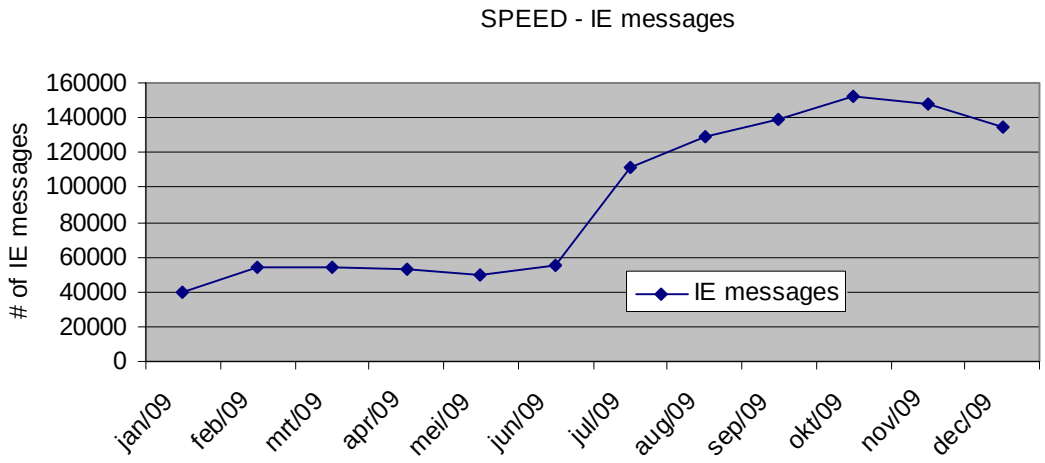


Figure 24: SPEED - Evolution in the Number of IE messages

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- There are now only 1 year of statistics available for SPEED. The limited number of measurements, and the fact that it is a new system make it difficult to draw a firm conclusion upon future requirements for this application;
- From a service point of view, no actions are required to ensure sufficient capacity in the future for this service.

6.2.17 Statistics Management Analysis Reporting Tool (SMART)

SMART Generic Information	
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxemburg
CAPACITY METRICS COLLECTED BY	CPU usage - Memory usage - HD space usage - DB table space usage - NW/bandwidth usage - Business Monitoring - E2E Monitoring -
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times

Table 6-37: SMART – Generic Information

Generic information

The Statistics Management Analysis Reporting Tool (SMART) is one of the applications of a Centrally Developed Transit Application (CDTA) suite that has been developed to support NCTS. The main purpose of the SMART is to expand the scope of the monitoring of NCTS operations by having the possibility to execute flexible queries on the operational data, generate statistics, identify open movements in the system and collect data on abnormal behaviour and in general maintain an overview of NCTS Operations.

The SMART consists of the several components. The data from the data sources is being extracted, transformed, consolidated and loaded to the data warehouse while not affecting the operations of the Data Sources. The structure of the data in this database is specifically designed and optimized for reporting and querying purposes, providing the increased performance. Data delivery and consumption tool provides the creation and delivery of the information to the end users

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- No statistics have been found in the MSR or elsewhere for SMART;
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-38: SMART – Capacity Related Problems

No SMART problems regarding performance/capacity issues have been registered in the last year.

Business Transactions

No data is reported in the MSR [R7] concerning business usage of the SMART application.

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- There are no business transactions defined for SMART nor any statistics collected. Therefore no conclusions have been drawn at this stage.

6.2.18 Central Services / Management Information System (CS/MIS)

CS/MIS Generic Information	
HOSTED AT/ MANAGED BY	XXX
CAPACITY METRICS COLLECTED BY	CPU usage - Memory usage - HD space usage - DB table space usage - NW/bandwidth usage - Business Monitoring - E2E Monitoring -
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times

Table 6-39: CS/MIS – Generic Information

Generic Information

CS/MIS is one of the applications of a Centrally Developed Transit Application (CDTA) suite that has been developed to support NCTS and ECS. CS/MIS provides the facilities needed to monitor and report on the operation of NCTS from the system, business and resources points of view.

- Monitoring and handling of the NCTS operations;
- Reporting on NCTS and ECS-related traffic (messages, NCTS Movements);
- Reporting on NCTS and ECS resource utilization;
- Monitoring and handling of "national customs application" (NCA) unavailability - National Transit Applications (NTA s) and National Export Control Applications (NECA s).

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- No statistics have been found in the MSR or elsewhere for CS/MIS;
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues:

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-40: CS/MIS – Capacity related Problems

No CS/MIS problems regarding performance/capacity issues have been registered in the last year.

Business Transactions

CS/MIS is a monitoring and reporting application. Therefore there is no business transaction identified for this application and no statistics can be given for this application.

Business Forecast

As CS/MIS is a monitoring and reporting application, it is not applicable to provide forecasting information on this application.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- No operational issues with this service currently exist;
- CS/MIS is a monitoring and reporting application, no business statistics are monitored. Therefore no conclusions can be drawn from a business perspective.

6.2.19 Central Service / Reference Data (CS/RD)

CS/RD Generic Information	
HOSTED AT/ MANAGED BY	XXX
CAPACITY METRICS COLLECTED BY	CPU usage - Memory usage - HD space usage - DB table space usage - NW/bandwidth usage - Business Monitoring - E2E Monitoring -
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times

Table 6-41: CS/RD – Generic Information

Generic Information

Central Services/Reference Database (CS/RD) is one of the applications of a Centrally Developed Transit Application (CDTA) suite that has been developed to support NCTS. The main functionality of the CS/RD system is to store and distribute common reference data. The two main groups of data are:

- The Customs Office List (COL) in all participating countries: This is a list of the Customs Offices of Export and Exit and Excise Offices;
- The Common Reference Data (RD): reference data such as country names, currency codes, units of measure etc.

The repository is located centrally at the Common Domain - Central Services Office. The notifications of every modification of the COL and RD are sent to all National administrations (NA s) of Member States (MS s).

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- No statistics have been found in the MSR or elsewhere for CS/RD;
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
36	4/2/2009	CSRD EXTREMELY production slow	NCTS.CS/RD

Table 6-42: CS/RD – Capacity related Problems

One CS/RD problem has been registered over the last year. This problem is related to capacity issues. The issue is a lack of disk space due to swap files. In problem report summary of April 2009, the problem seems to be solved, new version and space added.

We can add that the same issue happened in 2010 (TDS) , however no official problem logging found on this.

Business Transactions

CS/RD is a “repository application”. Therefore there only few messages are exchanged per day with the application and the member states. So as it concerns business transactions identified for this application negligible statistics can be given for this application.

Business Forecast

As CS/RD is a “repository application”, it is not applicable to provide forecasting information on this application from a business perspective.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- CS/RD is a “repository application”, no business statistics are monitored. Therefore no conclusions can be drawn from a business perspective.

6.2.20 Web2000 (Web2000)

Web2000 Generic Information		
HOSTED AT/ MANAGED BY	XXX	
CAPACITY METRICS COLLECTED BY	CPU usage	-
	Memory usage	-
	HD space usage	- (SCOM is being implemented)
	DB table space usage	SCOM
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-43: Web2000 – Generic Information

Generic Information

Web2000 is a content data Management system for the issues related to the NCTS or Integrated Tariff Management System (ITMS). Web2000 facilitates the communication and the information sharing among NA s, contractors and the Commission. Via Web2000, NA s can access, view and follow-up their calls, find the links to various applications, access the project baseline and download documents or application releases. Foreseen phase out 03/2010 and will be replaced by the new ITSM Portal.

Confirmation at the time writing this version 1.11, as per Comment 113 of TDS : The Web2000 is stopped (was made unavailable to users on 28/03/2010).

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- The Web2000 cap statistics cover 2 years of data.
- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-44: Web2000 – Capacity related Problems

No Web2000 problems regarding performance/capacity issues have been registered in the last year.

Business Transactions

The usage of Web2000 is indicated by the number of successful connections from the NA s. From the MSR [R7], the following Web2000 statistics have been retrieved:

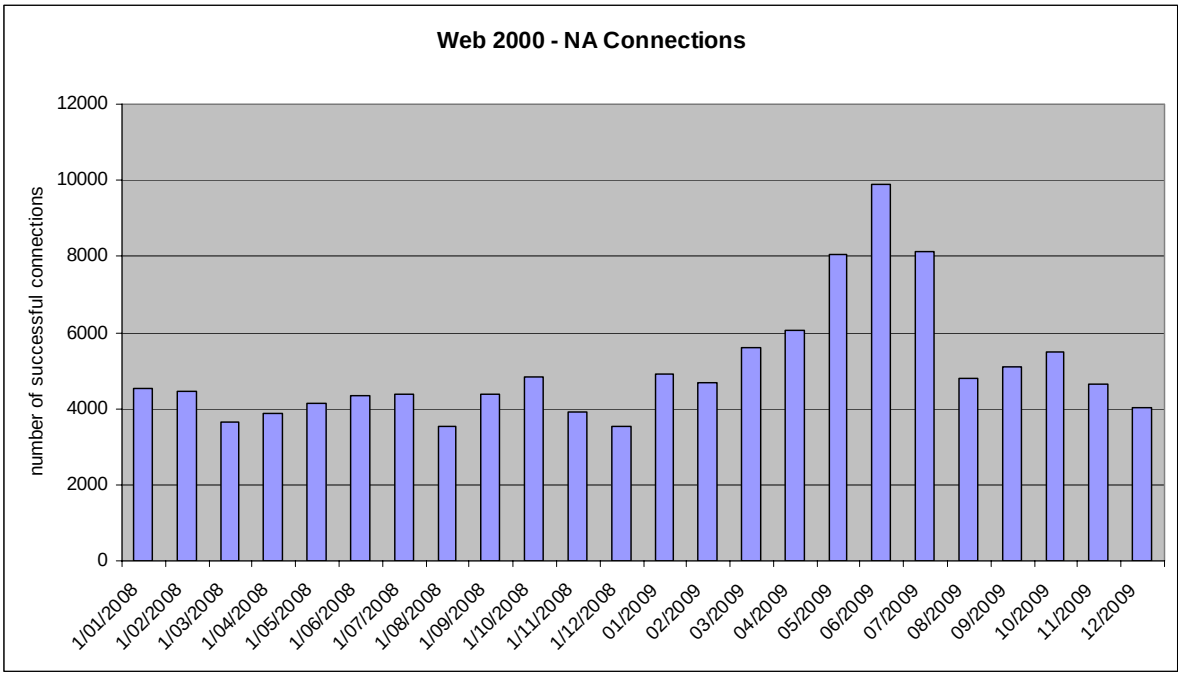


Figure 25: Evolution of NA Accesses to Web2000

Business Forecast

No business forecast information from DG Taxation and Customs Union about Web2000 has been processed in this document.

Conclusion

Based on the statistics reported above in combination with the business forecast for this service, the conclusion is:

- The number of Web2000 NA accesses is fairly stable with occasional peaks;
- No operational issues with this service currently exist;
- From a service point of view, no actions are required to ensure sufficient capacity in the future for this service.

6.3 Excise Services

The flagship of this thread will be EMCS. EMCS Phase 2 is in production since 01/01/2010 At this moment there are a set of small and medium-size systems already in operation (EWSE, MVS, SEED). EWSE and MVS are trans-European systems and therefore not covered in this Capacity Plan.

6.3.1 System for Exchange of Excise Data (SEED)

SEED Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED	CPU usage	BMC Patrol
	Memory usage	BMC Patrol
	HD space usage	UNIX script
	DB table space usage	UNIX script
	NW/bandwidth usage	-
	Business Monitoring	SEED Monitoring/ Qbrowser for CCN queues
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-45: SEED – Generic Information

Generic information

The SEED application (System for Exchange of Excise Data) provides the core of the SEED platform and offers services for managing, storing and consulting information on the Economic Operators register. Member State Administrations exchange registers of authorised warehouse keepers and registered traders, and premises authorised as tax warehouses. The System for Exchange of Excise Data (SEED) provides the following central services:

- Consolidation of the information sent by all countries in a central repository;
- Consultation of the SEED central repository via on-line web interface;

- Extraction of the content of the SEED repository on request;
- Automatic dissemination of the content of the SEED repository whenever the data from any of the Member States has been updated;
- Uploading the lists of all Excise Offices (EOL) in all Member States into the Customs Office List (COL) and consultation of excise offices information;
- Limited access to the SEED information for economic operators, in order to perform simple verification queries.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- Business forecasts have not been provided and are therefore not taken into account in the analysis nor the conclusions.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems			
PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-46: SEED – Capacity related Problems

Business Transactions

In the framework of the improvement of the monitoring, efforts are being made to gather required information related to SEED. This is an ongoing activity. From the MSR [R7], the following statistics have been retrieved:

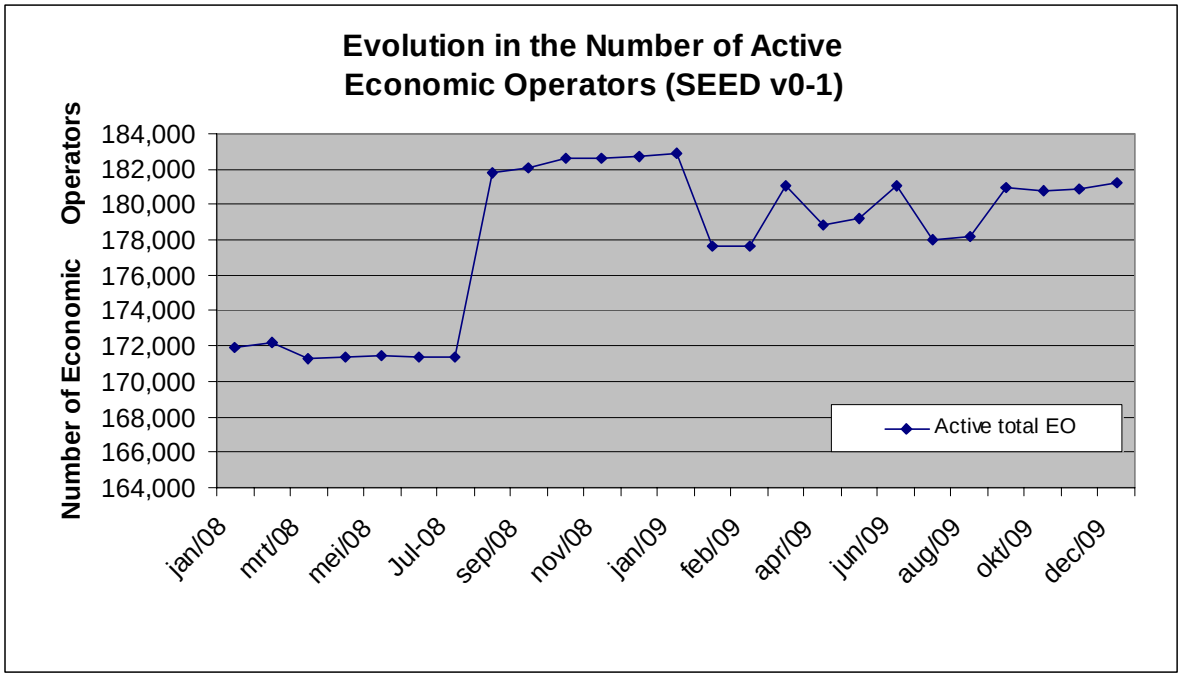


Figure 26: Evolution in the Number of Active Economic Operators

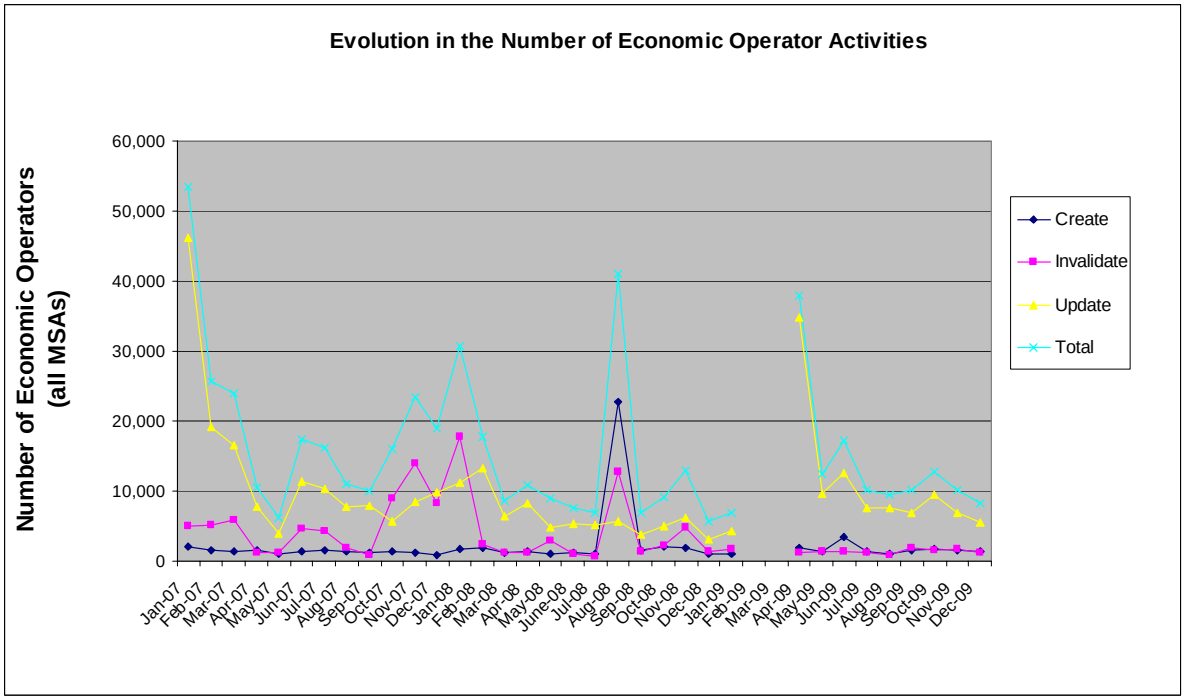


Figure 27: Evolution in the Number of Economic Operator Activities

Business Forecast

No business forecast information from DG Taxation and Customs Union about this service has been processed in this document.

Conclusion

Based on the statistics reported above, in combination with the business forecast for this service, the conclusion is:

- No operational issues with this service currently exist;
- The current statistics indicate an increasing trend in the amount of active economic operators. The amount of active economic operators in August 2008 increased by 24% compared to July of the same year. This implied a structural increase which must be confirmed through the analysis of additional statistics when available. Now the number of Economic Operators is stable around 180.000. A new version of Seed was introduced since March 2009, however besides a gap in some statistics we see no impact on the behaviour of the statistics.
- No actions are required to ensure sufficient capacity in the future for this service. The impact of this growth on the underlying IT Infrastructure needs to be assessed and appropriate expansion of this infrastructure needs to be foreseen.

6.4 Taxation Services

All graphs, forecasts, and conclusions are based on information from the following sources: VIES stats ([R2], [R11], [R12]), traffic projection 2013 sheet ([R1]).

6.4.1 VIES-on-the-Web (VoW)

VoW Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED BY	CPU usage	BMC Patrol
	Memory usage	BMC Patroll
	HD space usage	BMC Patrol
	DB table space usage	-
	NW/bandwidth usage	-
	Business Monitoring	VIES Statistics System
	E2E Monitoring	VoW Monitoring
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-47: VoW – Generic Information

Generic Information

The objective of VIES-on-the-Web is to allow traders involved in the intra-Community supply of goods or of services to obtain confirmation of the validity of the VAT identification number of any specified person. There is no VAT central database at Community level; the verification is done against the national VAT database using the synchronous R-VATR service of the traditional VIES system. VIES-on-the-Web application allows external, non government users, access to a limited subset of VIES System functionality.

VIES-on-the-Web is centrally developed and is operated by DG Taxud.

The application can be accessed by any of two interfaces:

- HTTP Web Page access (Interactive);
- API (SOAP Web Service).

VIES-on-the-Web is accessible via the Customs and Taxation branch under Europa in the section Databases, but it is not hosted on DDS. There are three hosts providing the database

services accessible via Europa : DDS, TEDB and VoW. It enables anyone with Internet access to perform the validation of current EU VAT Numbers. The validation has the form of a Yes or No answer, retrieved from the National VIES applications. VIES-on-the-WEB does not maintain its own database; it can only direct requests for information to the existing National VIES applications. The user is required to define in a request the country supposedly controlling that VAT number and the requesting VAT number. If authorised by the concerned member state, the more detailed information concerning the Trader associated with the VAT number, such as Name and Address may be provided.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- Average size estimated form VIES/Web statistics :
  - VIES/Web hits / CCN message I 35675
  - VIES/Web hits / no CCN message I 34799
  - VIES/Web hits / abusive use (rejected) I 34799
  - VIES/Web hits / CCN message A 2023
  - VIES/Web hits / no CCN message A 1147
  - VIES/Web hits / abusive use (rejected) A 1147
- Traffic estimation is based on the fact that a hit results in either a direct answer (no CCN or abusive use), or a CCN message. Only the hit is taken into account in the number of messages, whereas for the size, all messages are included;
- VIES/Web hits / CCN message : hits reported in the stats as "Valid", "Invalid", "Reply Timeout", "VIES Unavail.", "CCN Unavail.", "Corrupt CSI Reply";
- VIES/Web hits / no CCN message : hits reported in the stats as "Invalid Syntax", "Invalid Length", "Corrupt Input", Undefined, "Internal Error";
- VIES/Web hits / abusive use (rejected): hits reported in the stats as “Rejected”.

➢ Verification of the above assumptions : The average size (Mb) for VIES as seen in the traffic_matrix_ccn_2008/9_summary.xls is around 2500, Based on the total number of Hits as seen in 2009 and the measured total size the average is 1386. Therefore we can conclude that the above was indeed a good estmate size but also needs to be adapted with a current noticed 13% increase of hits.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-48: VoW– Capacity related Problems

No VIES-on-the-Web problems regarding performance/capacity issues have been registered in the last year.

Business Transactions

The major usage indicator of VoW is the number of hits. From the above mentioned sources, the following data has been retrieved.

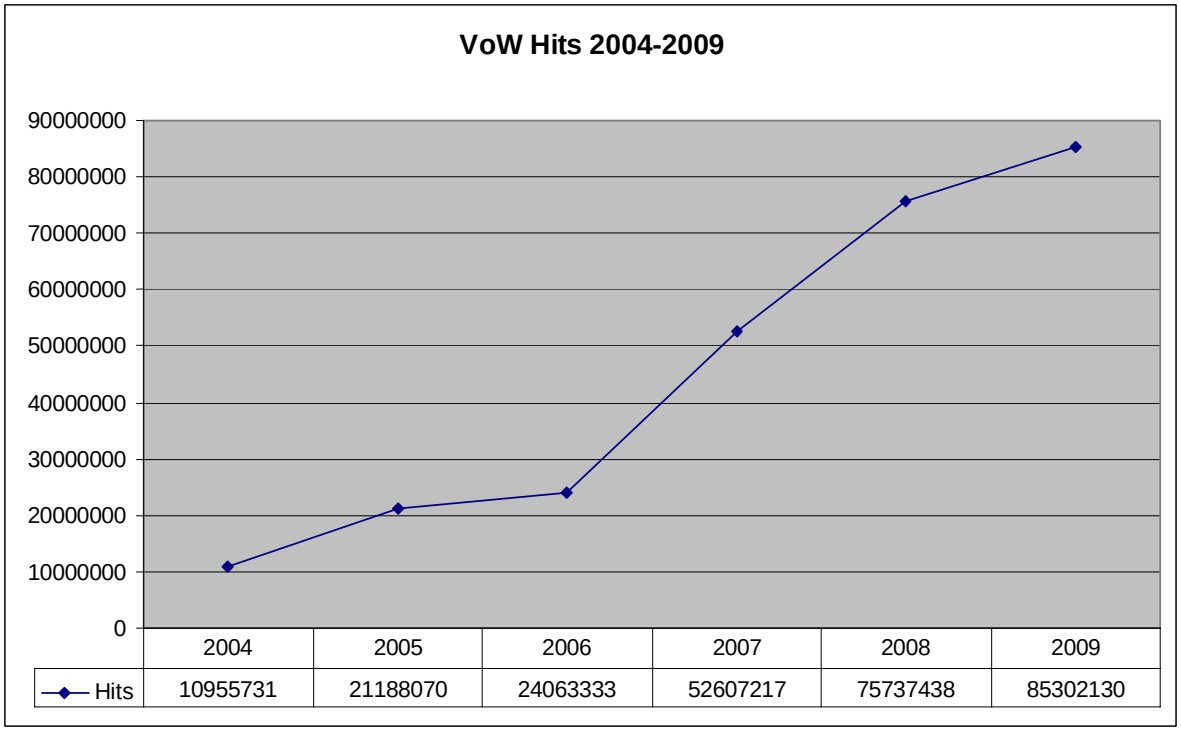
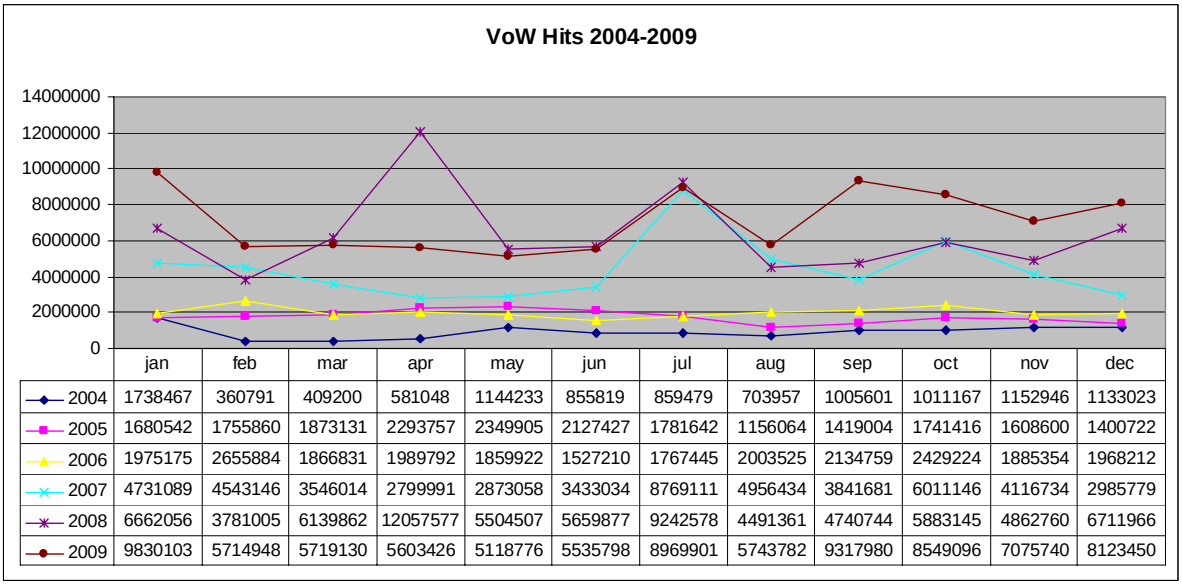


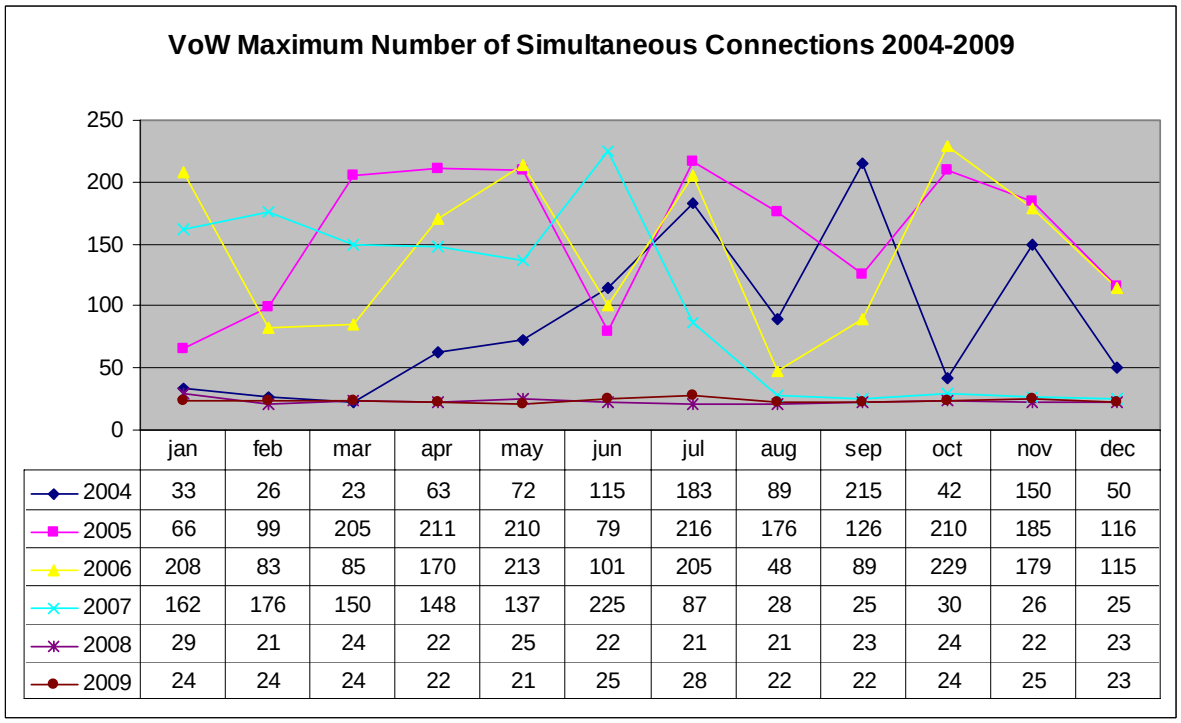
Figure 28: VoW – Hits 2004-2009



	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
2004	1738467	360791	409200	581048	1144233	855819	859479	703957	1005601	1011167	1152946	1133023
2005	1680542	1755860	1873131	2293757	2349905	2127427	1781642	1156064	1419004	1741416	1608600	1400722
2006	1975175	2655884	1866831	1989792	1859922	1527210	1767445	2003525	2134759	2429224	1885354	1968212
2007	4731089	4543146	3546014	2799991	2873058	3433034	8769111	4956434	3841681	6011146	4116734	2985779
2008	6662056	3781005	6139862	12057577	5504507	5659877	9242578	4491361	4740744	5883145	4862760	6711966
2009	9830103	5714948	5719130	5603426	5118776	5535798	8969901	5743782	9317980	8549096	7075740	8123450

Figure 29: VoW – Hits 2004-2009

The following chart provides an overview of the maximum number of simultaneous connected users.

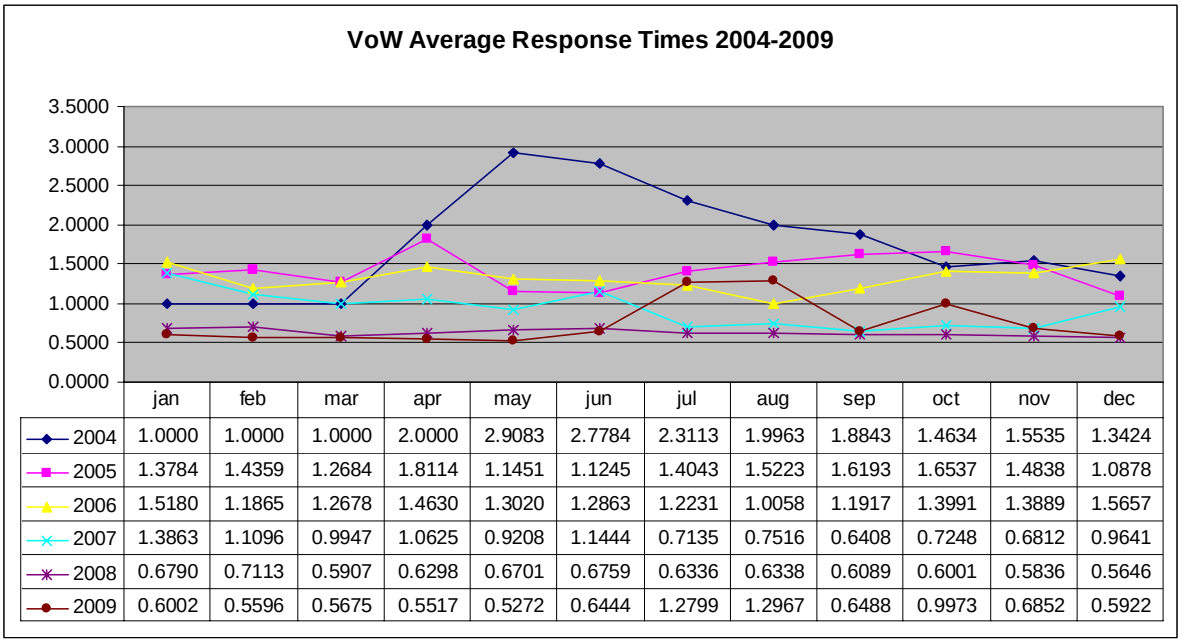


	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
2004	33	26	23	63	72	115	183	89	215	42	150	50
2005	66	99	205	211	210	79	216	176	126	210	185	116
2006	208	83	85	170	213	101	205	48	89	229	179	115
2007	162	176	150	148	137	225	87	28	25	30	26	25
2008	29	21	24	22	25	22	21	21	23	24	22	23
2009	24	24	24	22	21	25	28	22	22	24	25	23

Figure 30: VoW - Maximum Number of Simultaneous Connections 2004-2009

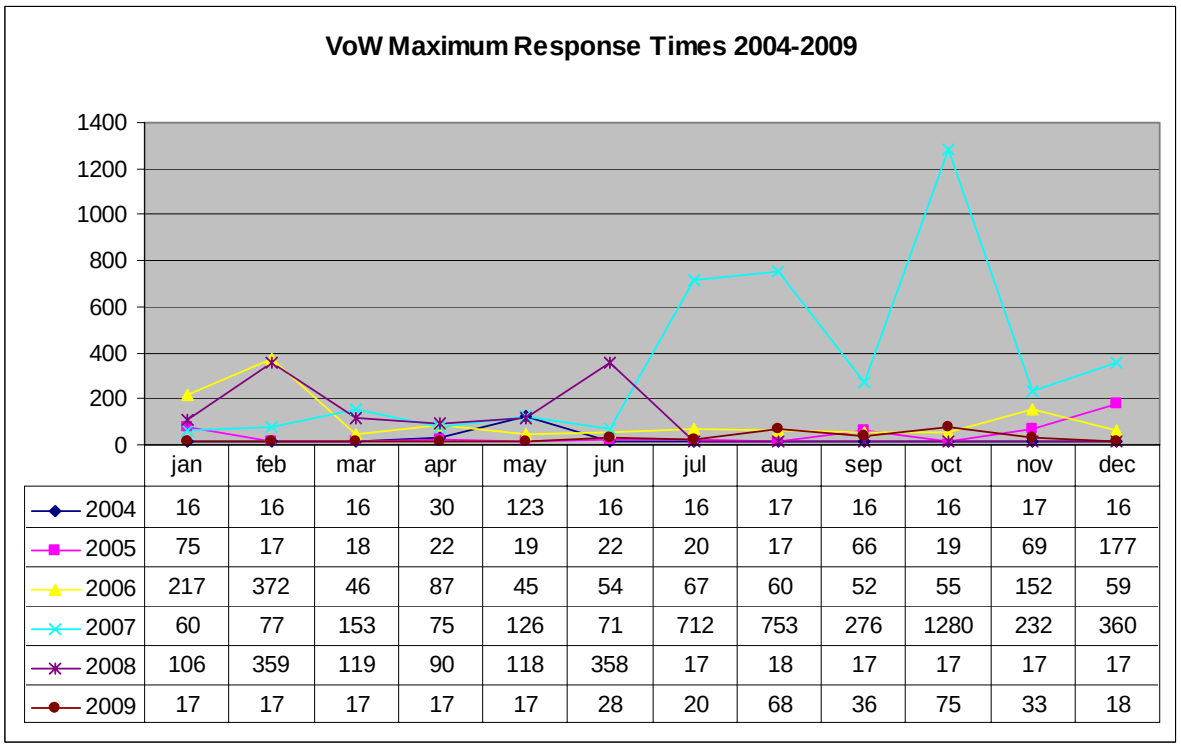
Response times

The below charts have been created with measuring data retrieved from the monthly statistics report generated for VoW. They present the average and maximum measured response times.



	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
2004	1.0000	1.0000	1.0000	2.0000	2.9083	2.7784	2.3113	1.9963	1.8843	1.4634	1.5535	1.3424
2005	1.3784	1.4359	1.2684	1.8114	1.1451	1.1245	1.4043	1.5223	1.6193	1.6537	1.4838	1.0878
2006	1.5180	1.1865	1.2678	1.4630	1.3020	1.2863	1.2231	1.0058	1.1917	1.3991	1.3889	1.5657
2007	1.3863	1.1096	0.9947	1.0625	0.9208	1.1444	0.7135	0.7516	0.6408	0.7248	0.6812	0.9641
2008	0.6790	0.7113	0.5907	0.6298	0.6701	0.6759	0.6336	0.6338	0.6089	0.6001	0.5836	0.5646
2009	0.6002	0.5596	0.5675	0.5517	0.5272	0.6444	1.2799	1.2967	0.6488	0.9973	0.6852	0.5922

Figure 31: VoW – Average Response Times 2004-2009



	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec
2004	16	16	16	30	123	16	16	17	16	16	17	16
2005	75	17	18	22	19	22	20	17	66	19	69	177
2006	217	372	46	87	45	54	67	60	52	55	152	59
2007	60	77	153	75	126	71	712	753	276	1280	232	360
2008	106	359	119	90	118	358	17	18	17	17	17	17
2009	17	17	17	17	17	28	20	68	36	75	33	18

Figure 32: VoW – Maximum Response Times 2004-2009 (msec)

Business Forecast

Based on the afore mentioned information and the assumptions and restrictions, the following forecast has been made.

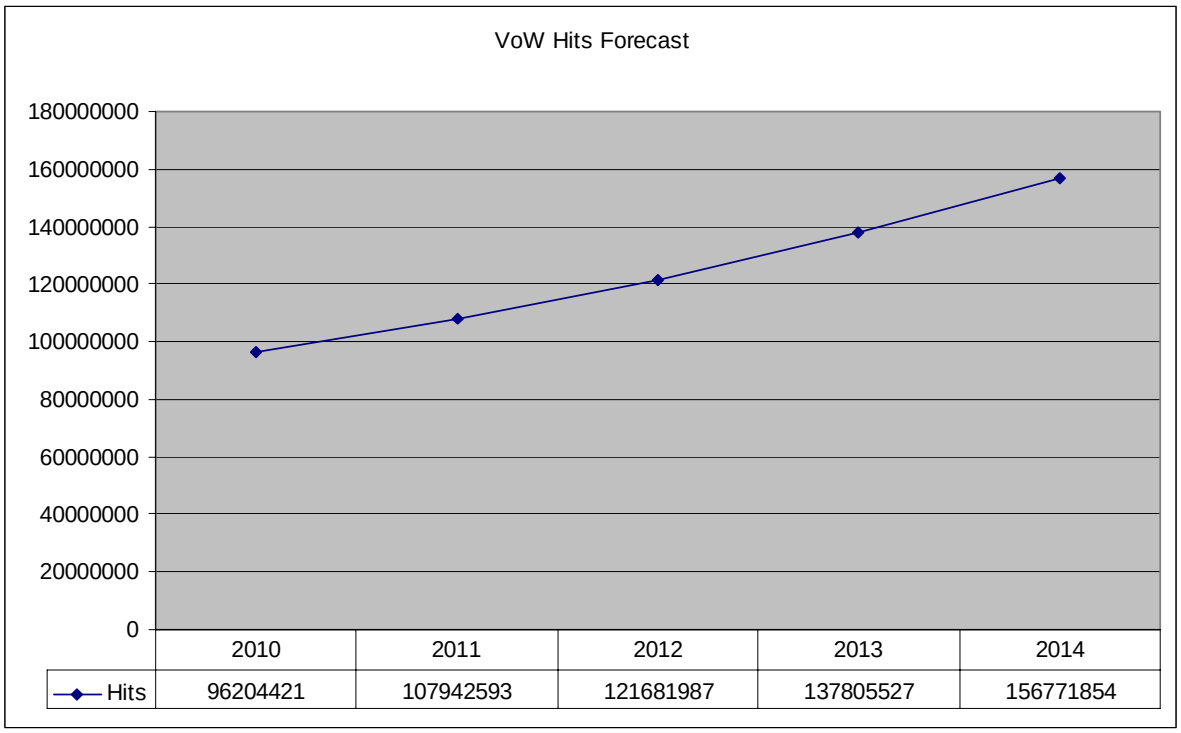


Figure 33: VoW – Hits Forecast 2009-2014

Conclusion

Based on the statistics reported above in combination with the business forecast for this service, the conclusions are:

- The forecast of VOW Hits for 2009 of 83667018 was a little below, but quite near to the measured statistics of 85302130, this has been taken into account for the new forecast.
- The maximum number of simultaneous connected users is fairly consistent over the last year, 2009 and 2008 show a very similar and stable behaviour no major difference has been registered or anomalies identified that require further investigation;
- No operational capacity issues with this service currently exist;
- The measured average response times seem to be adequate and do not suggest any performance risks and/or degradation in performance (from a response time point of view) currently exist.

6.4.2 VIES Monitoring (VIES MON)

VIES MON Generic Information		
HOSTED AT/ MANAGED BY	XXX	
CAPACITY METRICS COLLECTED BY	CPU usage	SCOM
	Memory usage	SCOM
	HD space usage	SCOM
	DB table space usage	-
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-49: VIES MON – Generic Information

Generic Information

The core of VIES system (VAT Information Exchange System) consists of national VIES applications and databases maintained by the Member States. These national applications and databases should be able to provide "without delay" VAT information to various tax administrations and other authorised users. Therefore it is necessary to verify the accessibility of the different Member States VIES applications, for that purpose VIES Monitoring is used. The VIES Monitoring periodically sends preformatted VIES messages to each Member State in both synchronous and asynchronous modes. The response received is used to verify “on-line” the availability of the Member States VIES application.

The VIES Monitoring Application is made up of two parts:

- The **Monitoring Engine**, that sends periodically VIES requests to each Member State and records the response to these requests in Statistics Files;
- The **Display Module**, that is updated by the Monitoring Engine and displays the current status of the VIES services in the monitored Member States, as well as maintaining a history.

The first of them - the Monitoring Engine sends periodically VIES requests to each Member State (eight types of VIES Messages R_VATR, R_HVATR, R_L2F2, R_L1F2, R_L2F1, R_L1F1, R_L1C and R_L1CM). Information concerning response received from Member State is recorded in statistical log files. The purpose of this operation is check the availability of the VIES service and its response time, not to check the correctness of the

response returned or the validity of the VAT number submitted. Therefore, the application does not parse completely the response returned. The Monitoring Engine runs on a Linux host at the site of the contractor who is responsible for monitoring the compliance of Member State VIES applications.

The second module - the Display Module retrieves information from the statistical log files generated by the Monitoring Engine and displays graphically the current availability of the VIES services in the different Member States. The purpose of the second module is to provide the end user with a graphical display of the current availability of the different VIES services in different MS. However displayed are information related only to two types of messages R_VATR and R_HVATR.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
40	05/03/3009	In synchronous mode, our VIES test applications are pre-started, that is the application is started before the RAP. Once the connection is established between the application and the RAP, it should remain stable. According to CCN/TC, there is no timeout on gateway side. Possible root cause : The connection between the application and the RAP is timed out by an ITSM network equipment, such as firewall or an ITSM network is reset during the night or the week-end.	TAX.VIES

Table 6-50: VIES MON – Capacity related Problems

One problem has been registered related to capacity issues during the last year. The root cause of the problem is currently under investigation. Initial analysis has indicated a connection timeout.

Business Transactions

Due to the nature of VIES MON, the CCN management messages it generates can be defined as the business transactions and is a good indicator for the usage and identification of usage patterns of VIES MON. From the CCN traffic matrix file(s) the following statistics have been collected:

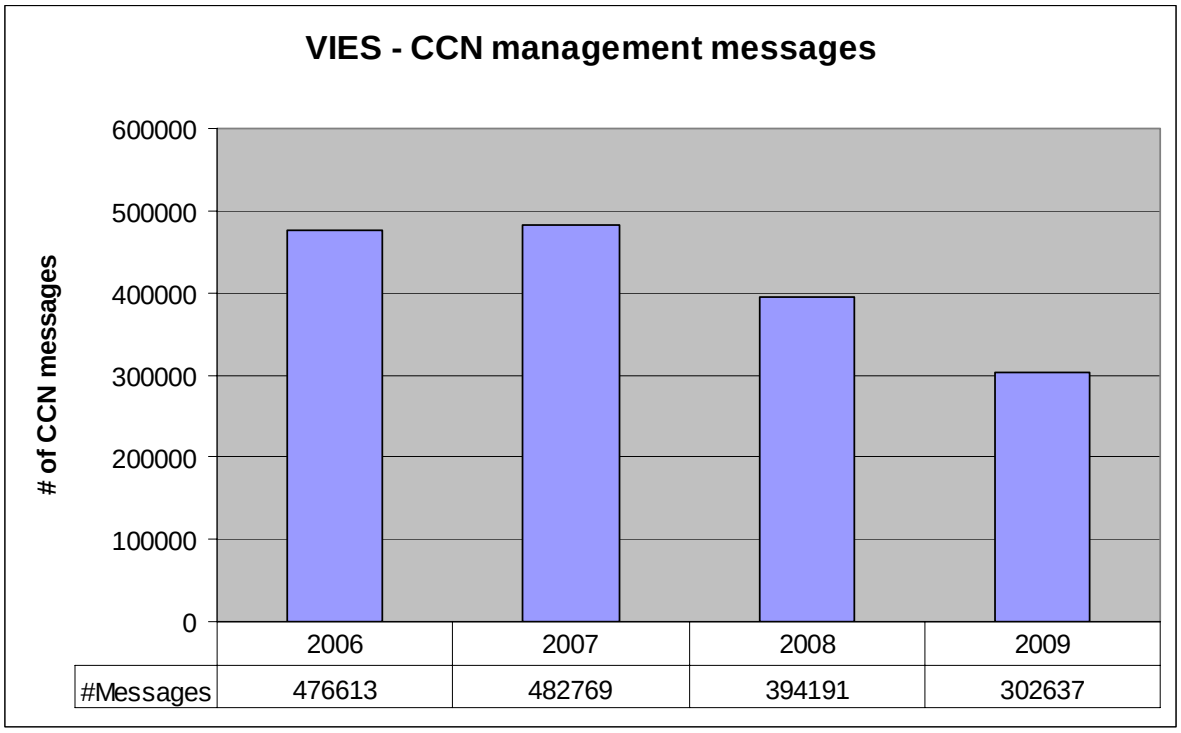


Figure 34: VIES MON – CCN management messages

Business Forecast

A business forecast information from DG Taxation and Customs Union about VIES MON has been processed in this document.

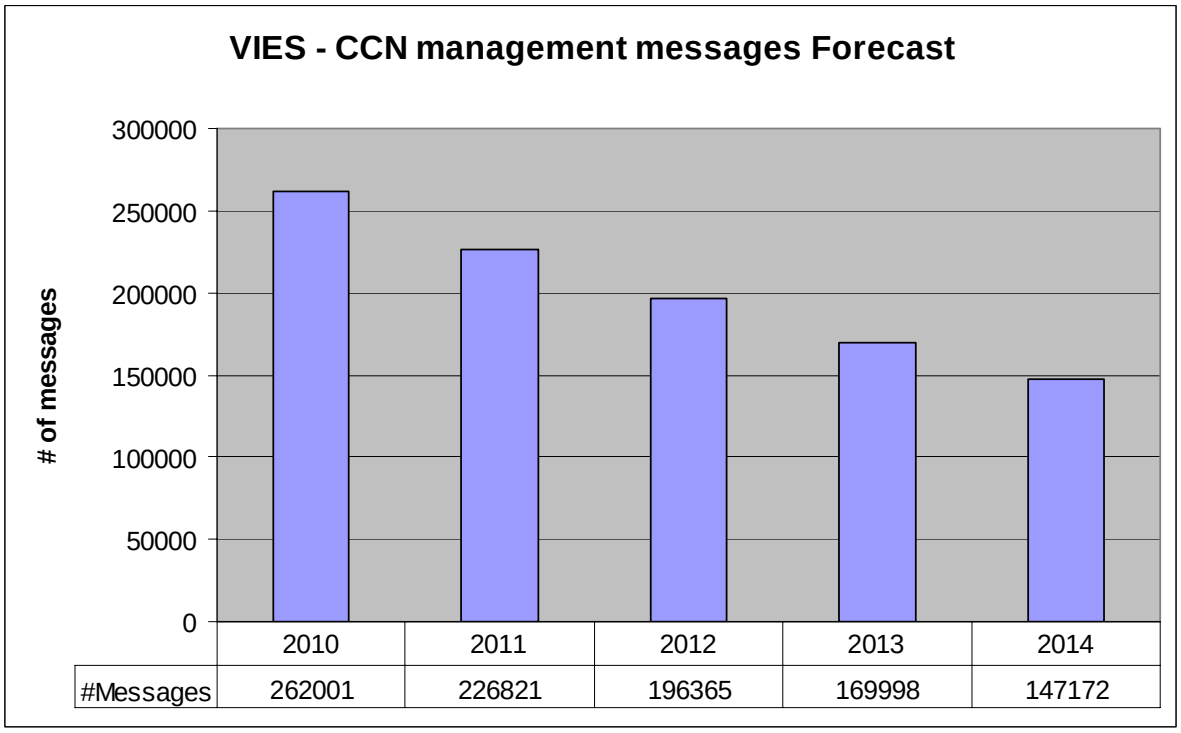


Figure 35: VIES MON – CCN management messages Forecast

Conclusion

Based on the statistics reported above in combination with the business forecast for this service, the conclusions are:

- The business statistics do not show any major fluctuations in the use of VIES MON. We see an declining trend as of 2007 on the measured statistics. Based on this reduction in the number of CCN messages a forecast for the next 5 years is done where as a decrease factor of 13% was used. This reduction must be investigated, monitored and analysed further in order to confirm the declining trend.
- There are no operational issues which require further investigation. No structural or long term Capacity Planning issues have been identified that requires activities to be initiated as part of service Capacity Management.

6.4.3 VIES-on-the-WEB Monitoring (VoW MON)

VoW MON Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED BY	CPU usage	BMC Patrol
	Memory usage	BMC Patrol
	HD space usage	BMC Patrol
	DB table space usage	-
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-51: VoW MON – Generic Information

Generic Information

The objective of the VIES-on-the-Web Monitoring is to check the availability of the VIES-on-the-Web services.

The application is composed of three modules:

- A web engine module, which sends the request to the VIES-on-the-Web application, parses the answer and sends a status to the Visualisation part;
- Another engine which is responsible to collect information on the state of the server where VIES-on-the-Web application is running (like CPU usage, size of log files, number of process…);
- A visualisation module, which is responsible to display the status received from the engine as well as to keep a history of the received status.

The application is dedicated to control operational status of the VIES-on the-Web. One of its functionalities is to control whether requests sent to Member States with utilisation of VIES-on the-Web are processed correctly. Another one is to monitor performance parameters of VIES-on the-Web production server.

The VIES-on-the-Web Monitoring (Web Engine Module) periodically sends requests to the VIES-on-the-Web. Those requests are directed by the VIES-on-the-Web to a proper addressee (Member State). Results of requests, an answer or an error, are recorded in a log files. Received answers are verified; however the application does not check the correctness of the response returned, or the validity of the VAT number submitted. VIES-on-the-Web

Monitoring does not parse completely the response returned, but checks that the response to a given request is the proper VIES-on-the-Web response message. Afterward a precise defined message is created and sent to an element of the VIES-on-the-Web Monitoring responsible for the display of results (Visualisation Module). Besides visualisation of the current monitoring status this part of the application also stores received messages which are accessible as historical data. Monitoring results are formatted into a precise defined message and sent to an element of the VIES-on-the-Web Monitoring responsible for the display of it (Visualisation Module).

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-52: VoW MON – Capacity related Problems

The problem report shows one issue with problem identifier 52, however it does not seem performance/capacity related and therefore it is not listed here..

Business Transactions

VoW MON is a monitoring application which is not used by the business itself. Therefore, no associated business transactions have been identified for this application or any business statistics monitored and captured.

Business Forecast

As VoW MON is a monitoring application which is not used by the business itself, it is not applicable to provide business forecasting information on this application.

Conclusion

Based on the statistics reported above in combination with the business forecast for this service, the conclusions are:

- VoW MON is a monitoring application which is not used by the business itself, no business statistics are therefore monitored. Conclusions are therefore not drawn from a business perspective;
- There is no service or operational issues identified at this stage.

6.4.4 VIES-on-the-WEB Configuration Tool (VoW CT)

VoW CT Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED BY	CPU usage	BMC Patrol
	Memory usage	BMC Patrol
	HD space usage	BMC Patrol
	DB table space usage	-
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-53: VoW CT – Generic Information

Generic Information

The objective of the VIES-on-the-Web Configuration Tool is providing a web interface for managing the VIES-on-the-Web application.

The application offers the following functionalities:

- Rights and User Managements:
  - Read;
  - Filters;
  - Translator;
  - Admin;
- Reading and editing configurations files;
- Reading and editing translations for VIES-on-the-Web Interactive;
- Downloading logs and raw data files;
- Keep a history of the modifications made using the application.

The VIES-on-the-Web Configuration Tool is used to adjust parameters of the VIES-on-the-Web application in order to attain a desired level of performance and security. Also as the VIES-on-the-Web application according to the requirements is to be available in all European languages the VIES-on-the-Web Configuration Management service is exploited as a manager of translations.

The VIES-on-the-Web Configuration Tool allows managing user profiles, configuration (e.g. URL, Port, Proxy, Proxy Port, maximum number of concurrent requests), error

mapping, translations, logging details. It also enables authenticated users to download logs and statistics as well as to view the history.

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-54: VoW CT – Capacity related Problems

No VoW CT problems regarding performance/capacity issues have been registered in the last year.

Business Transactions

VoW CT is a configuration tool/application which is not used by the business itself. Therefore, no associated business transactions have been identified for this application or any business statistics monitored and captured.

Business Forecast

As VoW CT is a configuration tool application which is not used by the business itself, it is not applicable to provide forecasting information on this application.

Conclusion

Based on the statistics reported above in combination with the business forecast for this service, the conclusions are:

- As VoW CT is a configuration tool/application which is not used by the business itself, no business statistics are monitored. No conclusions are therefore drawn from a business perspective;
- There is no service or operational issues identified at this stage.

6.4.5 VIES Statistics System (VIES Stat)

VIES Stat Generic Information		
HOSTED AT/ MANAGED BY	XXX	
CAPACITY METRICS COLLECTED BY	CPU usage	SCOM
	Memory usage	SCOM
	HD space usage	SCOM
	DB table space usage	-
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-55: VIES Stat – Generic Information

Generic Information

The VIES Statistics System collects and processes differential information from various sources in several formats. On the basis of this information it provides consolidated statistics concerning VIES System and VIES-on-the-WEB:

- VIES – Exchange of VIES messages;
- VIES-on-the-Web – Usage of VIES-on-the-Web application;
- SLA – MS servers day and night availability;
- Service Calls – Information extracted from the SMT.

The system uses a central database at ITSM premises but input files are received from several sources:

- ITSM (Monitoring and SMT);
- CCN/TC (VIES Traffic);
- DG TAXUD (VIES-on-the-Web).

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-56: VIES Stat – Capacity related Problems

No VIES Stat problems regarding performance/capacity issues have been registered in the last year.

Business Transactions

VIES Stat is a reporting application which is not used by the business itself. Therefore, no associated business transactions have been identified for this application or any business statistics monitored and captured.

Business Forecast

As VIES Stat is a reporting application which is not used by the business itself, it is not applicable to provide forecasting information on this application.

Conclusion

Based on the statistics reported above in combination with the business forecast for this service, the conclusions are:

- VIES Stat is a reporting application which is not used by the business itself, no business statistics are therefore monitored and no conclusions are therefore drawn from a business perspective;
- There are no operational issues that require immediate attention.

6.4.6 Taxes in Europe (TEDB)

TEDB Generic Information		
HOSTED AT/ MANAGED BY	DG DIGIT, DC Luxembourg	
CAPACITY METRICS COLLECTED BY	CPU usage	BMC Patrol
	Memory usage	BMC Patrol
	HD space usage	BMC Patrol
	DB table space usage	-
	NW/bandwidth usage	-
	Business Monitoring	-
	E2E Monitoring	-
CAPACITY RELATED SLA AGREEMENTS IN PLACE	No known agreements upon performance/response times	

Table 6-57: TEDB – Generic Information

Generic Information

The "Tax Inventory" system provides the following functionalities:

- To provide citizens, Member States, companies and any other institution or individual with access to the information in the Inventory of Taxes available on the Europa web site, and to allow them to navigate, browse and search this information through the different documents;
- To ease the process of production and publication for DG TAXUD.

The information managed in the Tax Inventory is mainly a set of tax forms each describing a tax in a Member State. The Tax forms are filled in by the Member States and sent to DG TAXUD for verification and publication on the Europa web site. The deployment of TEDB2 is already being discussed.

Assumptions and restrictions

The following assumptions and restrictions apply to the conclusions, statistics and forecasts in this section:

- Estimation based on TEDB statistics since available (07/2007);
- TEDB (current taxes) constant over 10 months, AGR 0%;
- Search in archive adds 20% traffic;
- Search in archive starts on 1/09/2008 in operations;

- Search in archive generates messages of the same size as search on current taxes;
- Average size (kB) estimated from statistics:
    - Getcontents.do 100
    - Search.do 136
    - Showresults.do 11
    - Welcome.do 50

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 6-58: TEDB – Capacity related Problems

No TEDB problems regarding performance/capacity issues have been registered in the last year.

Business Transactions

The usage of TEDB is indicated by the number of page views. The following statistics have been retrieved from the document TAX-ISTS-TEDB-2009-12-stats [R11].

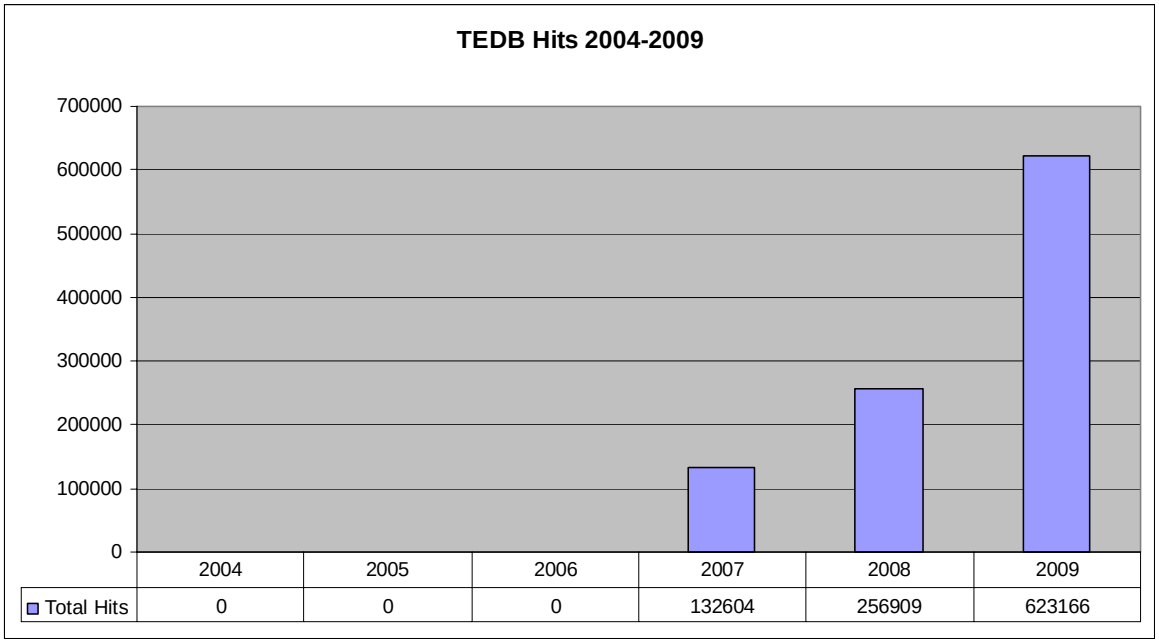
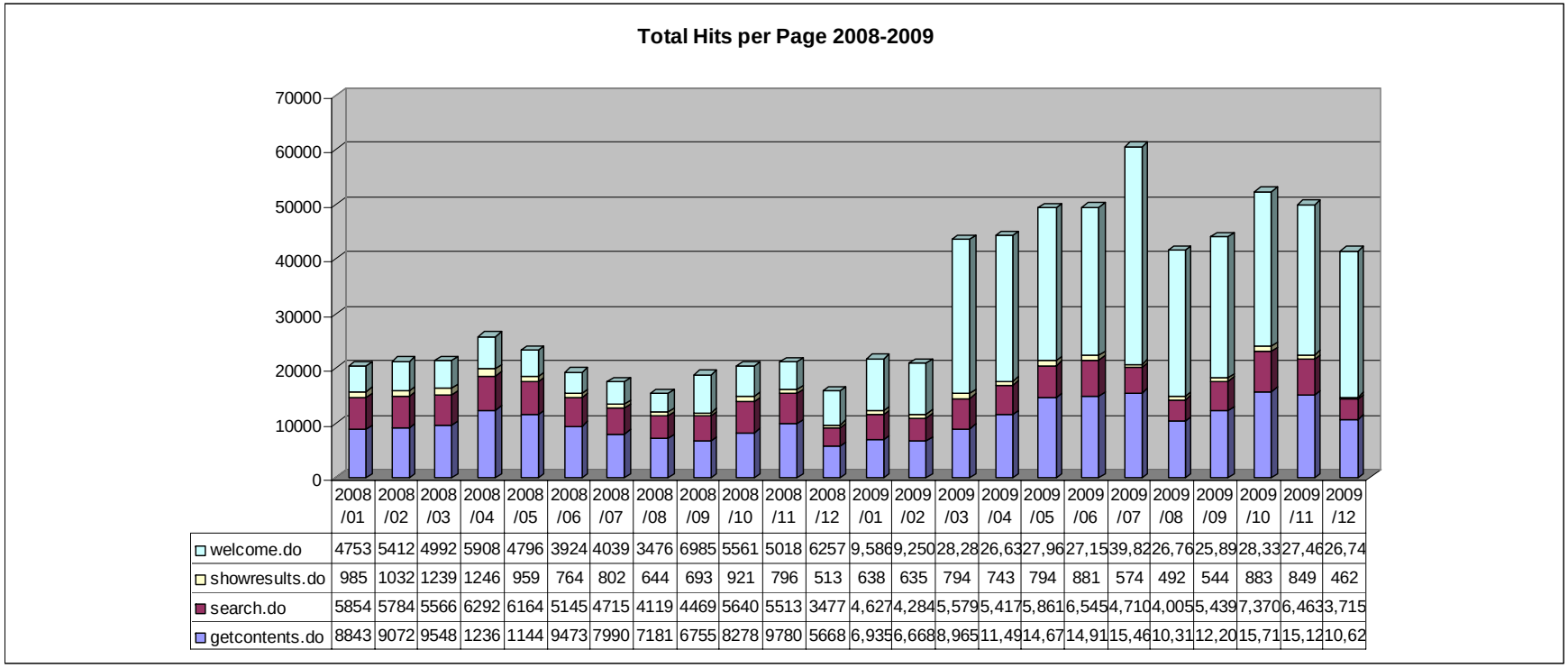


Figure 36: TEDB – Hits (Total Page Views) 2004-2009



	2008/01	2008/02	2008/03	2008/04	2008/05	2008/06	2008/07	2008/08	2008/09	2008/10	2008/11	2008/12	2009/01	2009/02	2009/03	2009/04	2009/05	2009/06	2009/07	2009/08	2009/09	2009/10	2009/11	2009/12
welcome.do	4753	5412	4992	5908	4796	3924	4039	3476	6985	5561	5018	6257	9,586	9,250	28,28	26,63	27,96	27,15	39,82	26,76	25,89	28,33	27,46	26,74
showresults.do	985	1032	1239	1246	959	764	802	644	693	921	796	513	638	635	794	743	794	881	574	492	544	883	849	462
search.do	5854	5784	5566	6292	6164	5145	4715	4119	4469	5640	5513	3477	4,627	4,284	5,579	5,417	5,861	6,545	4,710	4,005	5,439	7,370	6,463	3,715
getcontents.do	8843	9072	9548	1236	1144	9473	7990	7181	6755	8278	9780	5668	6,935	6,668	8,965	11,49	14,67	14,91	15,46	10,31	12,20	15,71	15,12	10,62

Figure 37: TEDB 2009 Number of Page Views per Page

Business Forecast

Based on the afore mentioned information and the assumptions and restrictions, the following forecast has been made.

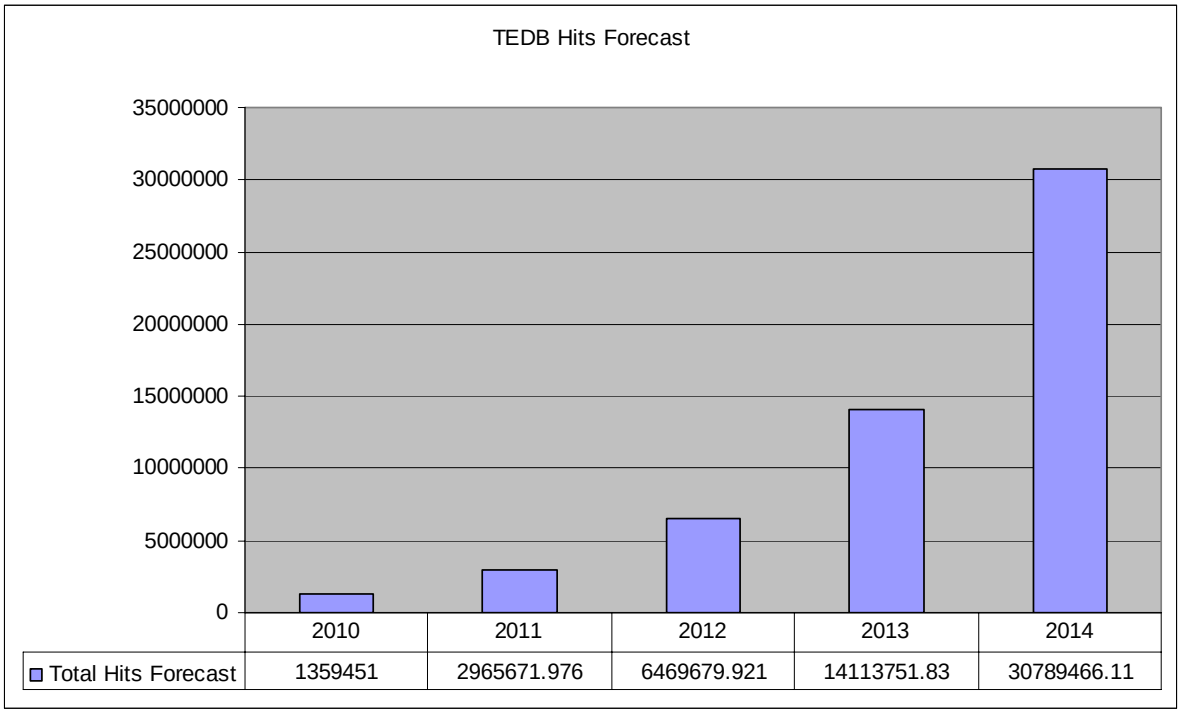


Figure 38: TEDB – Hits (Total Page Views) Forecast 2009-2014

Conclusion

Based on the statistics reported above in combination with the business forecast for this service, the conclusions are:

- No operational issues with this service currently exist;
- We see a sudden increase in the number of hits as of 03/2009, which persists during the whole year resulting in a total increase of TEDB hits of 243% in 2009. The previous forecast was based on a steady usage as seen in the year 2008, and therefore was not correct.
- Investigations must be made with application management to have a clear view on the impact of the increased usage as noticed in 2009, and if such future increases are likely to occur in order to make an accurate forecast.
- From a service point of view, actions are required to ensure sufficient capacity in the future for this service.

7. Resource Capacity Management

7.1 Introduction

Resource Capacity Management deals with analysis and forecasting of resources on the technical level. Monitoring tools are used to measure the amount of resources available using thresholds to alert support personnel to take preventive action. Based on the monitoring data trending analysis can be done which results in a forecast for required capacity of technical resources. Those activities, to ensure that the most efficient use is made of the existing capacity, would also prevent distress purchases and disruption.

Resource Capacity Management involves understanding the performance characteristics, capabilities and current utilisation levels of all technical components (CI s) that make up the infrastructure. It also involves predicting the impact of any changes and trends.

Resource Capacity Management should ensure the right amount of processing power, storage capacity and network bandwidth to guarantee proper performance and prevent incidents related to capacity shortage.

This paragraph contains on a high aggregation level the statistics and forecast of the most important indicators for resource utilisation.

Note: for the ITSM hosted systems, there is only a limited amount of data available as most of the systems are now (since July 2008) virtualised which means that the applications no longer run on their own dedicated physical server, but that these applications now run in a virtual environment (VMware) where the physical resources are shared amongst multiple VMware images. Measurements from before that data can therefore not be compared with the measurements after that date.

Only the main systems are included (i.e. not the fail-over systems). The failover systems should be identical and all expansions to the main systems should be executed for the fail-over systems also. The only exception is the Mammoth server, because this machine is also running CONF environments, which are very important for the business as well. Human resources aspects are not part of this Capacity Plan.

7.1.1 Current Resource Capacity Targets

This paragraph covers the current agreed capacity levels. These requirements are used to compare between actual levels and agreed levels of capacity.

The Capacity Management aspects of IT services are evaluated using the following indicators (according to the Technical Annex [R4]):

Capacity targets

ID	NAME	TARGET	LIMIT	MINIMUM NUMBER OF EVENTS	APPLICATION PERIOD
SQI14	ICT Resource usage by Managed objects under the responsibility of the Commission	No usage of the Managed Objects resource above 70%	No usage of the managed resource above 80%	1 Managed Object	Over the last month

Table 7-1: Capacity Targets

7.2 Disk Space

Generic Information

In order to deliver a disk space capacity analysis and forecast that can be used to properly plan for the foreseeable year, disk usage numbers need to be available for a significant period of time, including the frequency of peak usages, preferably one or more years, in order to recognise seasonality influences as a separate factor from trend. This will be done within the next yearly updates of the present document.

The disk space usage statistics are collected on a high level. This means that table space, file system space, etc. are included in the statistics, but not separately reported.

Scope of monitored resources

Disk space monitoring data is aggregated to a high level thereby indicating the most important bigger systems. The table below gives an overview of the systems supporting the delivery of the services identified in the previous chapters. If no disk space monitoring tool is indicated, the statistics cannot be provided here.

Scope of resources monitored for Disk Space

SYSTEM NAME	DATACENTER	DISK SPACE MONITORING TOOL
Mastodon	DC DIGIT	BMC Patrol
Mammoth	DC DIGIT	BMC Patrol
Alpha 5	DC DIGIT	BMC Patrol
Charlie8	DC DIGIT	<unknown>
CSMIS	DC ITSM XXX	SCOM
CSRD	DC ITSM XXX	SCOM
CSRD-TEST-PROD	DC ITSM XXX	SCOM
Web2000	DC ITSM XXX	SCOM
SVORADB1	DC ITSM XXX	SCOM (previously called: DELL-ORA-CLU-1)
SVORADB2	DC ITSM XXX	SCOM (previously called: DELL-ORA-CLU-2)
SPEED1, SPEED2, SPEED3	DC ITSM XXX	Nagios
Server8	DC ITSM XXX	No automated disk space monitoring/reporting
Server9	DC ITSM XXX	No automated disk space monitoring/reporting
Server20	DC ITSM XXX	No automated disk space monitoring/reporting. Will replace Server8
Server21	DC ITSM XXX	No automated disk space monitoring/reporting. Will replace Server9
“PSP servers“	DC ITSM XXX	No automated disk space monitoring/reporting
Mastodon	DC DIGIT	BMC Patrol
FITSPROD	DC ITSM XXX	SCOM
FITSDEV	DC ITSM XXX	SCOM
FITSSDB	DC ITSM XXX	SCOM

Table 7-2: Scope of Resources Monitored for Disk Space

Source: ITSM Monitoring department

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 7-3: Disk Space – Capacity Related Problems

No capacity related problems regarding disk space have been registered.

Disk space utilisation evolution of DIGIT hosted systems

Find below graphs about the Disk space utilisation of DIGIT hosted systems.

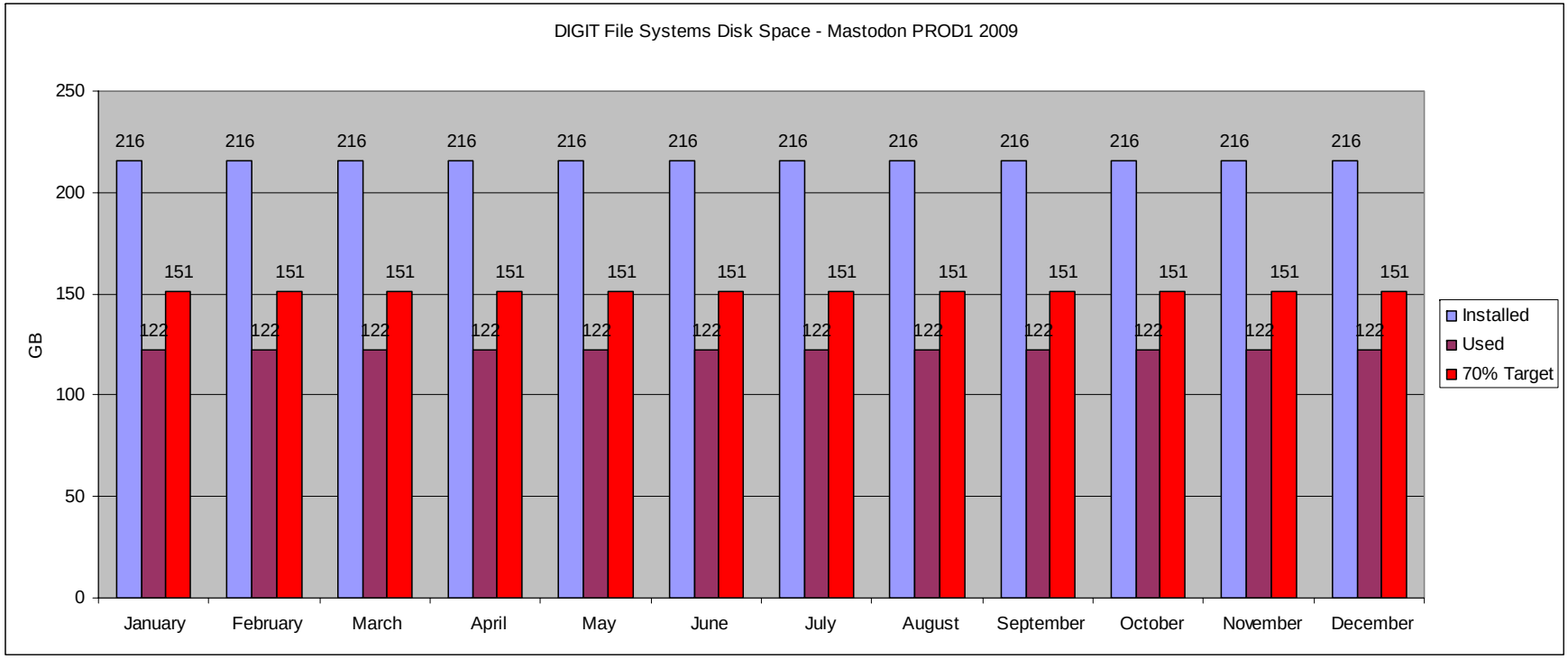


Figure 39: Total GB disk space used – Mastodon PROD1 – 2009

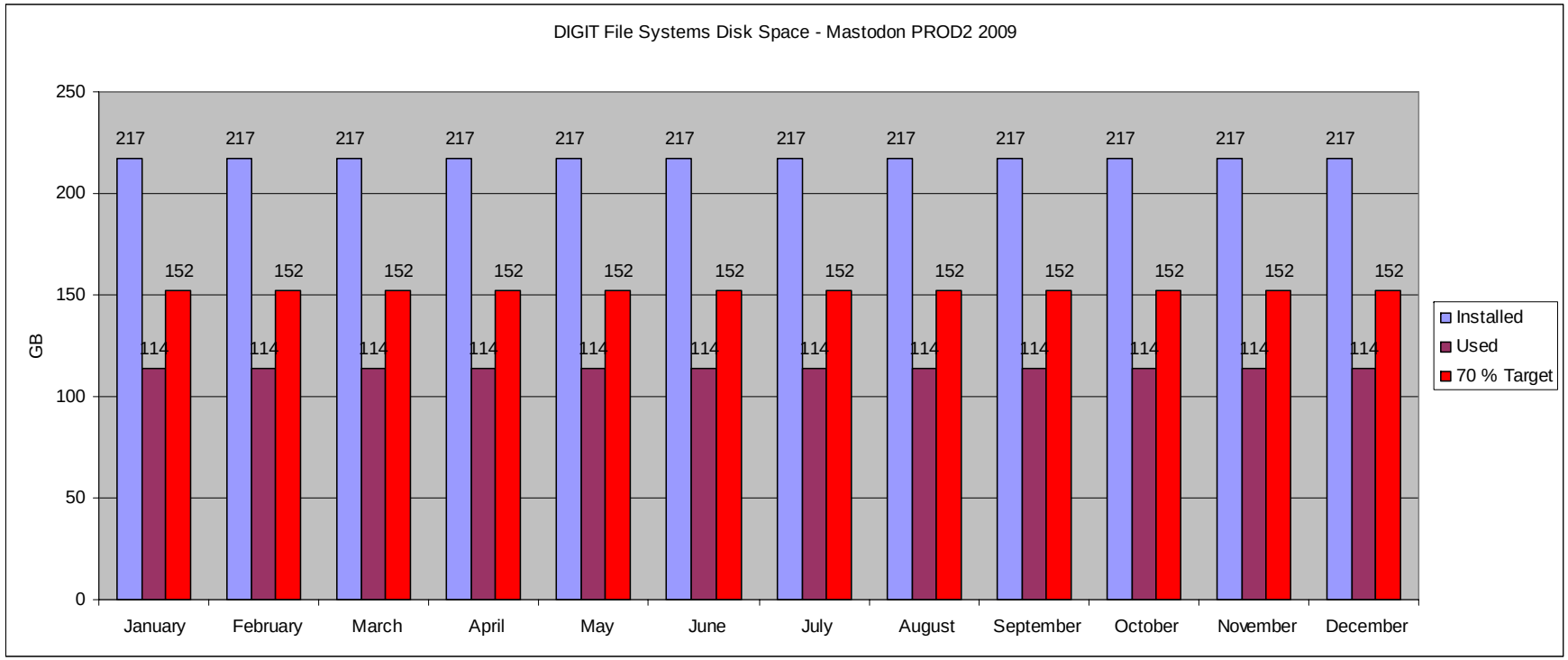


Figure 40: Total GB disk space used – Mastodon PROD2 – 2009

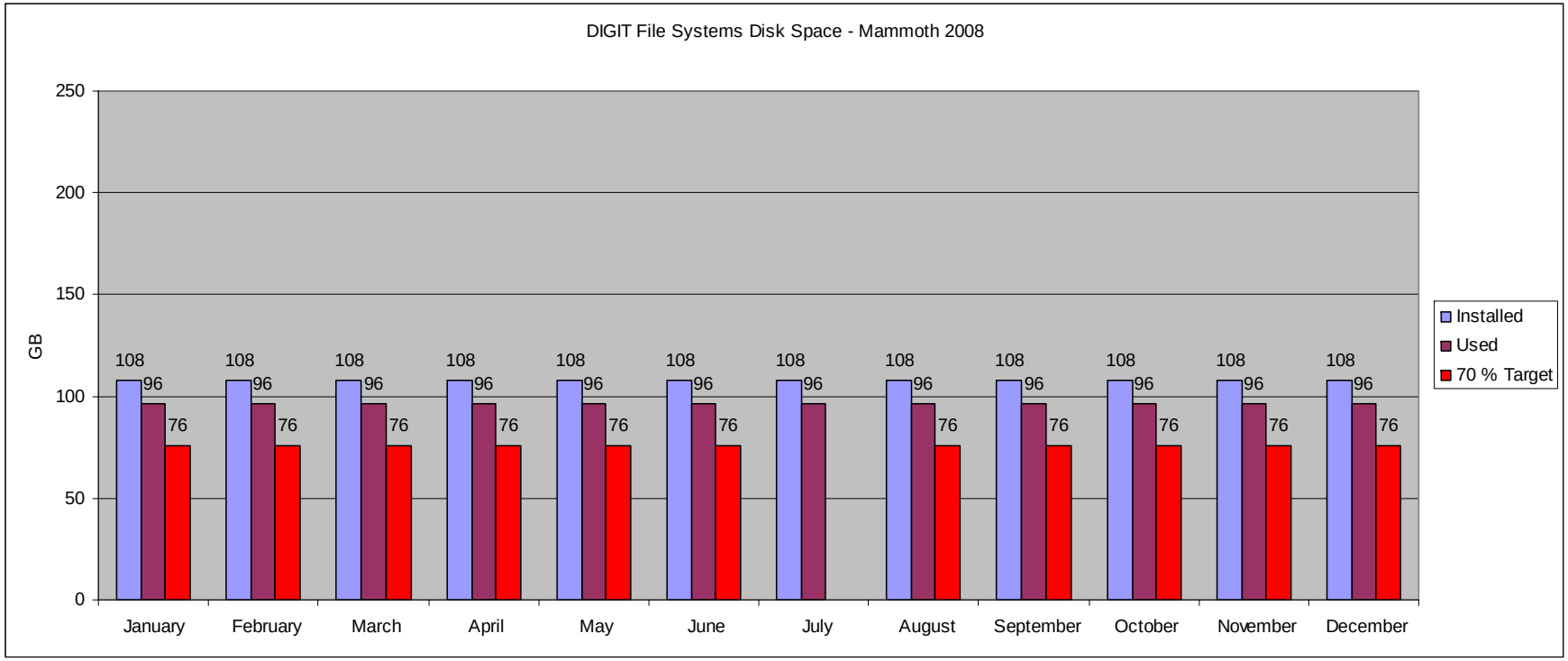


Figure 41: Total GB disk space used – Mammoth – 2009

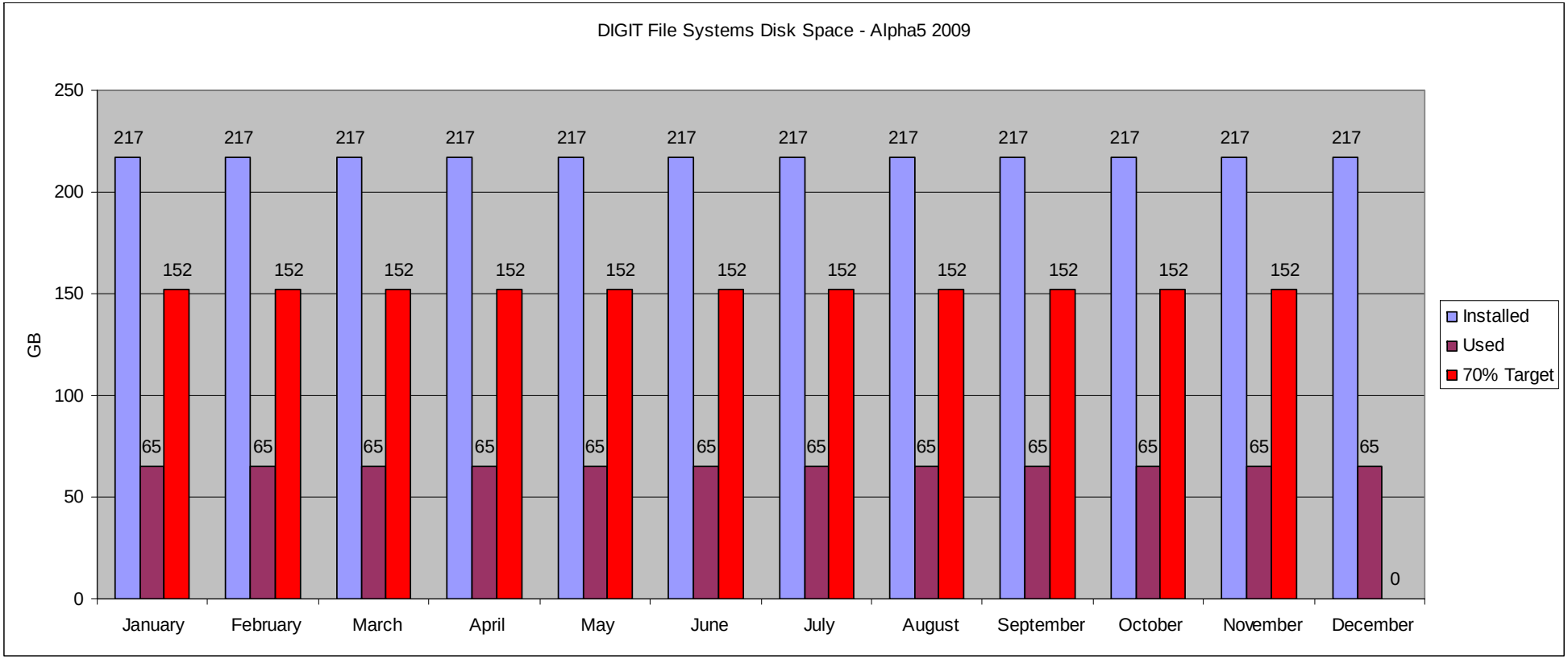


Figure 42: Total GB disk space used – Alpha5 – 2009

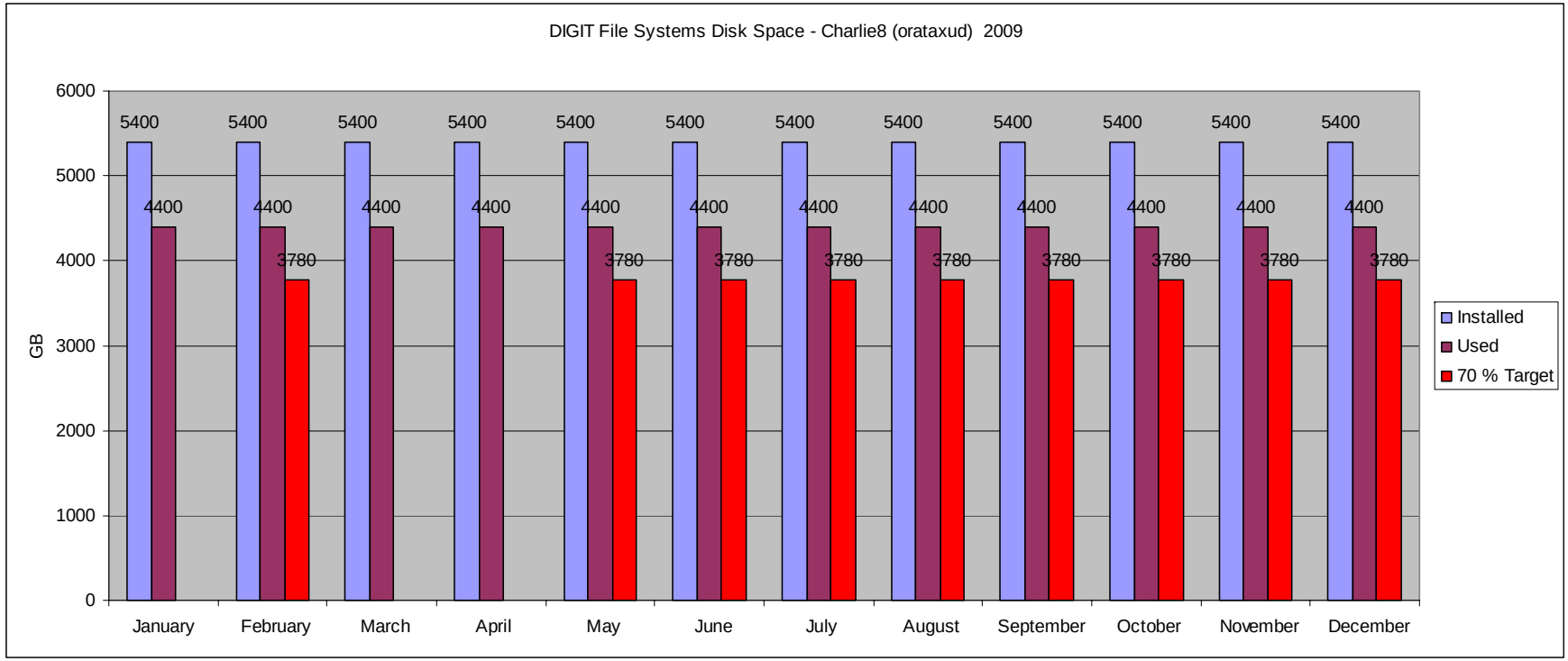
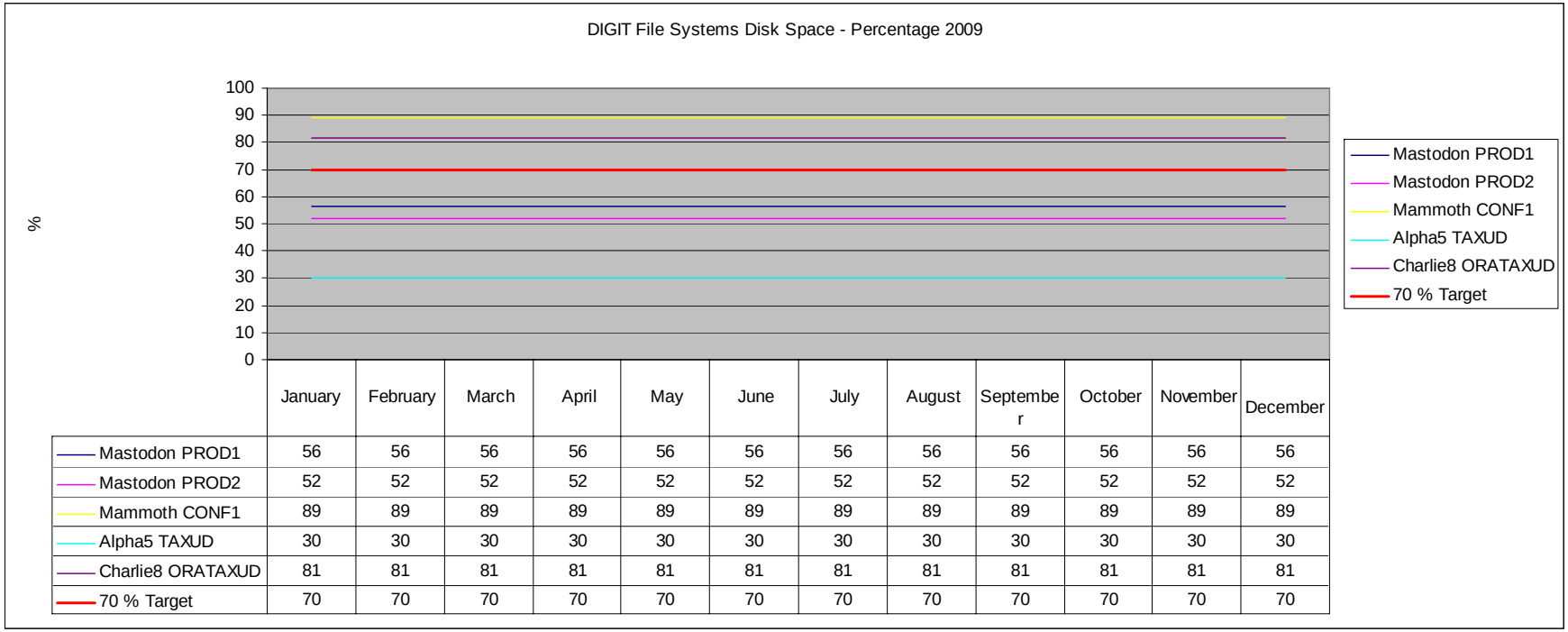


Figure 43: Total GB disk space used – Charlie8 (orataxud) – 2009



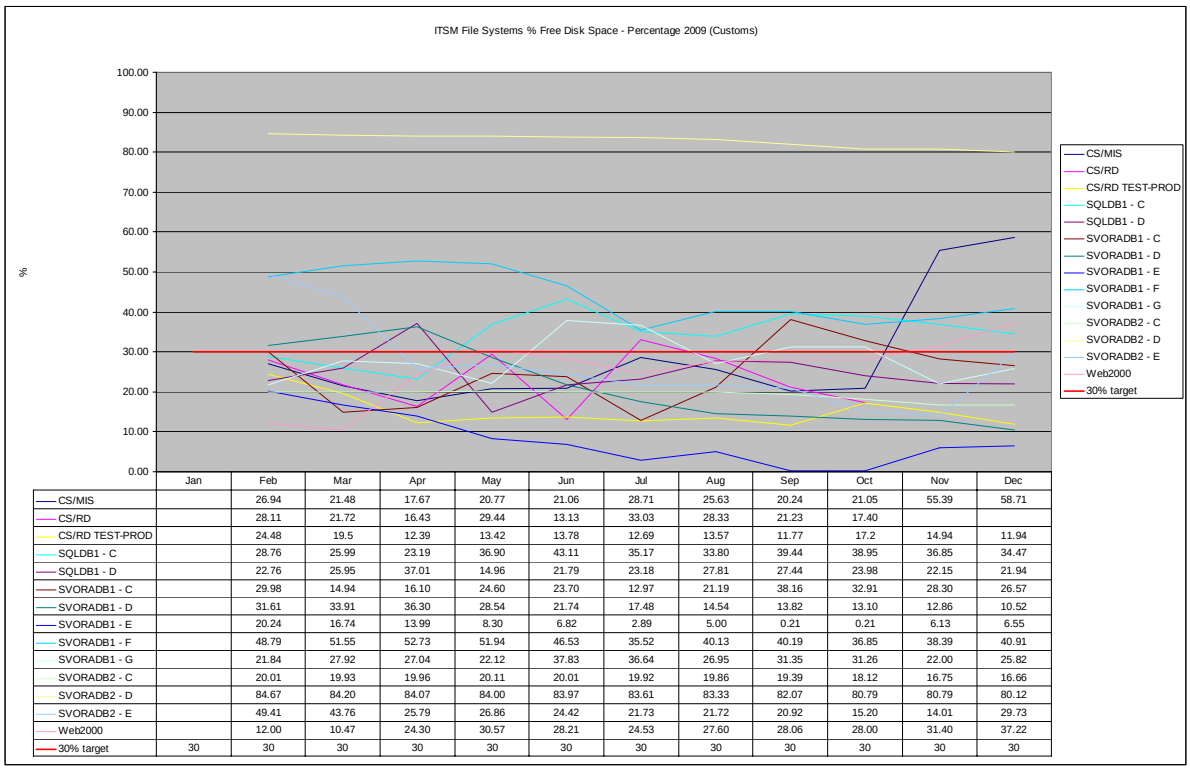
	January	February	March	April	May	June	July	August	September	October	November	December
Mastodon PROD1	56	56	56	56	56	56	56	56	56	56	56	56
Mastodon PROD2	52	52	52	52	52	52	52	52	52	52	52	52
Mammoth CONF1	89	89	89	89	89	89	89	89	89	89	89	89
Alpha5 TAXUD	30	30	30	30	30	30	30	30	30	30	30	30
Charlie8 ORATAXUD	81	81	81	81	81	81	81	81	81	81	81	81
70 % Target	70	70	70	70	70	70	70	70	70	70	70	70

Figure 44: Percentage of disk space used – DIGIT systems - 2009

Disk space utilisation evolution of ITSM hosted systems

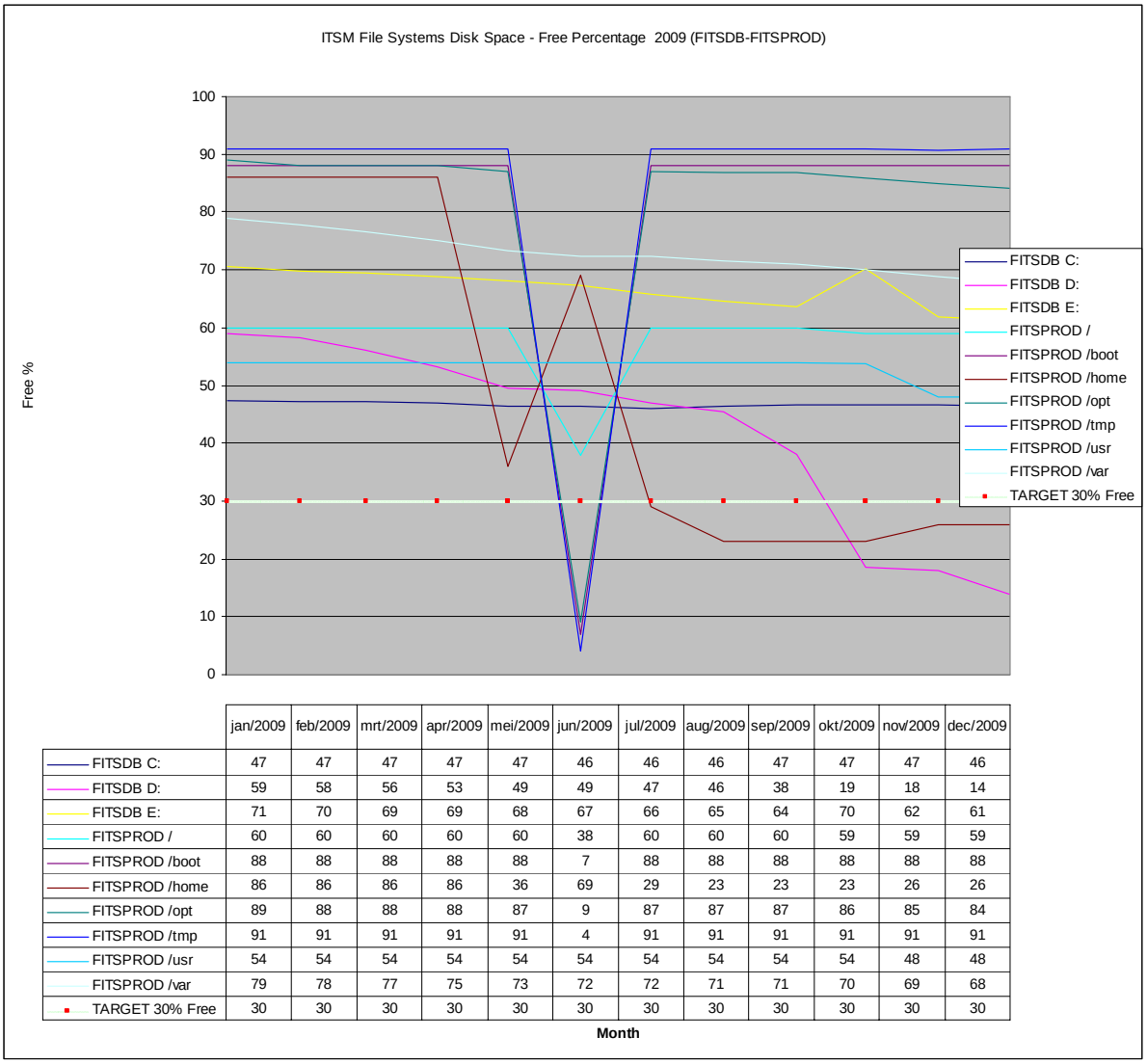
In July 2008 a lot of the underlying infrastructure for the ITSM hosted systems has changed. The systems are now virtualised which means that the applications no longer run on their own dedicated physical server, but that these applications now run in a virtual environment (VMware) where the physical resources are shared amongst multiple VMware images. We see a gap for the month of January, where some re-initialisations where made in de Microsoft Configuration Operations Manager, with as an implicit result that also the gathered statistics were removed.

Source: ITSM Monitoring, based on the minimum amount of free space per month.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CS/MIS		26.94	21.48	17.67	20.77	21.06	28.71	25.63	20.24	21.05	55.39	58.71
CS/RD		28.11	21.72	16.43	29.44	13.13	33.03	28.33	21.23	17.40		
CS/RD TEST-PROD		24.48	19.5	12.39	13.42	13.78	12.69	13.57	11.77	17.2	14.94	11.94
SQLDB1 - C		28.76	25.99	23.19	36.90	43.11	35.17	33.80	39.44	38.95	36.85	34.47
SQLDB1 - D		22.76	25.95	37.01	14.96	21.79	23.18	27.81	27.44	23.98	22.15	21.94
SVORADB1 - C		29.98	14.94	16.10	24.60	23.70	12.97	21.19	38.16	32.91	28.30	26.57
SVORADB1 - D		31.61	33.91	36.30	28.54	21.74	17.48	14.54	13.82	13.10	12.86	10.52
SVORADB1 - E		20.24	16.74	13.99	8.30	6.82	2.89	5.00	0.21	0.21	6.13	6.55
SVORADB1 - F		48.79	51.55	52.73	51.94	46.53	35.52	40.13	40.19	36.85	38.39	40.91
SVORADB1 - G		21.84	27.92	27.04	22.12	37.83	36.64	26.95	31.35	31.26	22.00	25.82
SVORADB2 - C		20.01	19.93	19.96	20.11	20.01	19.92	19.86	19.39	18.12	16.75	16.66
SVORADB2 - D		84.67	84.20	84.07	84.00	83.97	83.61	83.33	82.07	80.79	80.79	80.12
SVORADB2 - E		49.41	43.76	25.79	26.86	24.42	21.73	21.72	20.92	15.20	14.01	29.73
Web2000		12.00	10.47	24.30	30.57	28.21	24.53	27.60	28.06	28.00	31.40	37.22
30% target	30	30	30	30	30	30	30	30	30	30	30	30

Figure 45: Percentage of disk space used – ITSM systems (Customs) - 2009



	jan/2009	feb/2009	mrt/2009	apr/2009	mei/2009	jun/2009	jul/2009	aug/2009	sep/2009	okt/2009	nov/2009	dec/2009
FITSDB C:	47	47	47	47	47	46	46	46	47	47	47	46
FITSDB D:	59	58	56	53	49	49	47	46	38	19	18	14
FITSDB E:	71	70	69	69	68	67	66	65	64	70	62	61
FITSPROD /	60	60	60	60	60	38	60	60	60	59	59	59
FITSPROD /boot	88	88	88	88	88	7	88	88	88	88	88	88
FITSPROD /home	86	86	86	86	36	69	29	23	23	23	26	26
FITSPROD /opt	89	88	88	88	87	9	87	87	87	86	85	84
FITSPROD /tmp	91	91	91	91	91	4	91	91	91	91	91	91
FITSPROD /usr	54	54	54	54	54	54	54	54	54	54	48	48
FITSPROD /var	79	78	77	75	73	72	72	71	71	70	69	68
TARGET 30% Free	30	30	30	30	30	30	30	30	30	30	30	30

Figure 46: Percentage of disk space used – ITSM systems (Taxation) - 2009

Resource Forecast

For the DIGIT hosted systems the following can be seen:

The Mammoth and the Charlie8 systems are way above the max 70% resources used target. However with a target set at 70%, it leaves 30% of storage unused. For certain file systems this would be suitable, however less for others.

For the ITSM hosted Customs systems the following can be seen:

From “Figure 44 Percentage of disk space used - ITSM systems (Customs) – 2009” it can be concluded that on average the disk space usage by the ITSM hosted systems is rather stable,

it shows some fluctuations. We see that SVORAD1 its E-drive shows almost no free space left in Sept & Oct, but cleanup actions were undertaken. Some systems have already crossed the 70% maximum resource usage line as defined by SQI14 (see Table 7-1: Capacity Targets).

For the ITSM hosted Taxation systems the following can be seen:

From "Figure 45 Percentage of disk space used – ITSM systems (Taxation) – 2009" it can be concluded that the disk space usage is growing in a steady way. One server however, FITSPROD its file-systems /opt and /home had a drop in the % free space available in April and May, but these were caused by reinstallations.

Conclusion

Based on the statistics and the findings above, the following is concluded:

- Action should be taken to check if the diskspace usage will continue in a similar way. We should ensure the maximum target of 70% resource usage is adhered to by increasing available disk space (install disks / free up space) for the DIGIT hosted systems.
- Several ITSM systems, have exceeded the 70% target. Yet we must make this remark : All file-systems are monitored with standard thresholds that cause warning alerts at 80% and critical alerts at 90% disk usage. Some systems with a very constant usage, could even have higher exceptional levels set.
- The impact of the business plans on disk space utilization is currently unknown and remains to be investigated. The associated metrics remain to be defined and a translation model developed in order to conclude the impact of the business plans and the business forecasts in this document;
- An archiving strategy should be defined and implemented in order to free storage capacity for no more used data/files. This has to be coordinated with the LISO and incorporated in the DG TAXUD IS policy (see recommendation R9).

7.3 Memory

Generic Information

In order to deliver a memory usage capacity analysis and forecast that can be used to properly plan for the foreseeable year, memory usage numbers need to be available for a significant period of time. This includes the frequency of peak usages, preferably over one or more years, in order to recognise recurrent influences as a separate factor from trend. This will be done within the maintenance version of the present document.

Scope of monitored resources

Memory usage monitoring data is aggregated to a high level thereby indicating the most important bigger systems. The table below gives an overview of the systems supporting the delivery of the services identified in the previous chapter. In case no memory usage monitoring tool is currently indicated, the statistics cannot be provided here.

Scope of resources monitored for Memory		
SYSTEM NAME	DATACENTER	MEMORY USAGE MONITORING TOOL
Mastodon	DC DIGIT	BMC Patrol
Mammoth	DC DIGIT	BMC Patrol
Alpha 5	DC DIGIT	BMC Patrol
Charlie8	DC DIGIT	BMC Patrol
CSMIS	DC ITSM XXX	SCOM
CSRD	DC ITSM XXX	SCOM
CSRD-TEST-PROD	DC ITSM XXX	SCOM
Web2000	DC ITSM XXX	SCOM
SVORADB1	DC ITSM XXX	SCOM (previously called: DELL-ORA-CLU-1)
SVORADB2	DC ITSM XXX	SCOM (previously called: DELL-ORA-CLU-2)
SPEED1, SPEED2, SPEED3	DC ITSM XXX	<<unknown yet – new application>> prod, sat, conf
Server8	DC ITSM XXX	No automated memory usage monitoring/reporting
Server9	DC ITSM XXX	No automated memory usage monitoring/reporting
Server20	DC ITSM XXX	No automated memory usage monitoring/reporting. Will replace Server8
Server21	DC ITSM XXX	No automated memory usage monitoring/reporting. Will replace Server9
“PSP servers“	DC ITSM XXX	No automated memory usage monitoring/reporting
FITSPROD	DC ITSM XXX	SCOM
FITSDEV	DC ITSM XXX	SCOM
FITSSDB	DC ITSM XXX	SCOM

Table 7-4: Scope of Resources Monitored for Memory Usage

Source: ITSM Monitoring department

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems			
PROBLEM ID	REGISTRATION	TITLE	CATEGORY

Table 7-5: Memory – Capacity Related Problems

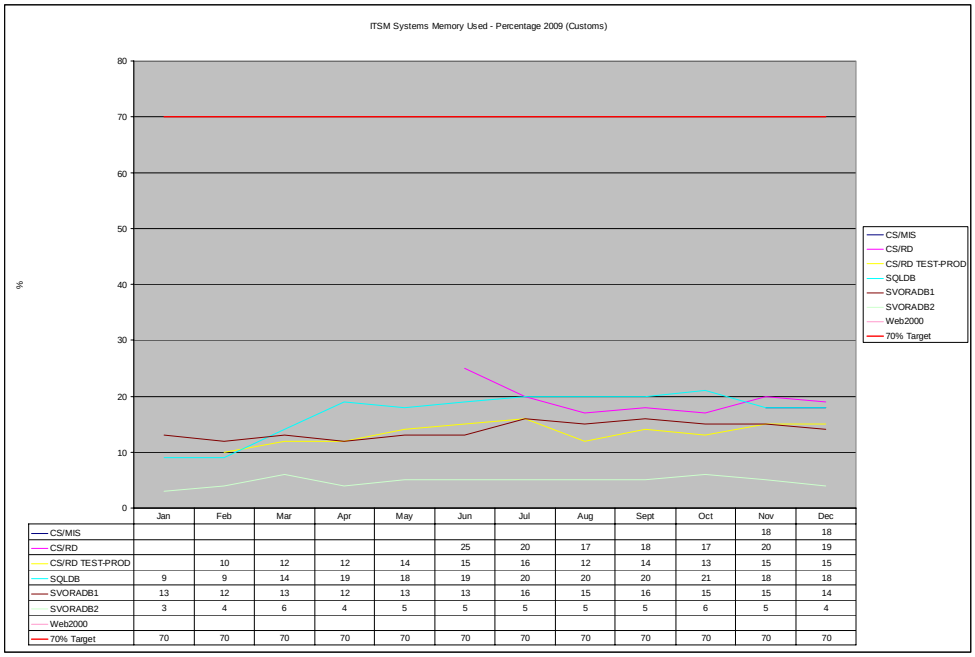
Memory utilisation evolution for DIGIT hosted systems

For the systems hosted at DG DIGIT BMC Patrol is used to monitor memory utilisation. These statistics are not in the possession of ITSM at the time of writing this document but have been requested. Efforts are being made to implement BMC Patrol on all servers at DIGIT for this purpose (see recommendation R3 in paragraph 8.5).Therefore no data has been reported here at this stage. The next update of the plan should include the statistics if available.

Memory utilisation evolution for ITSM hosted systems

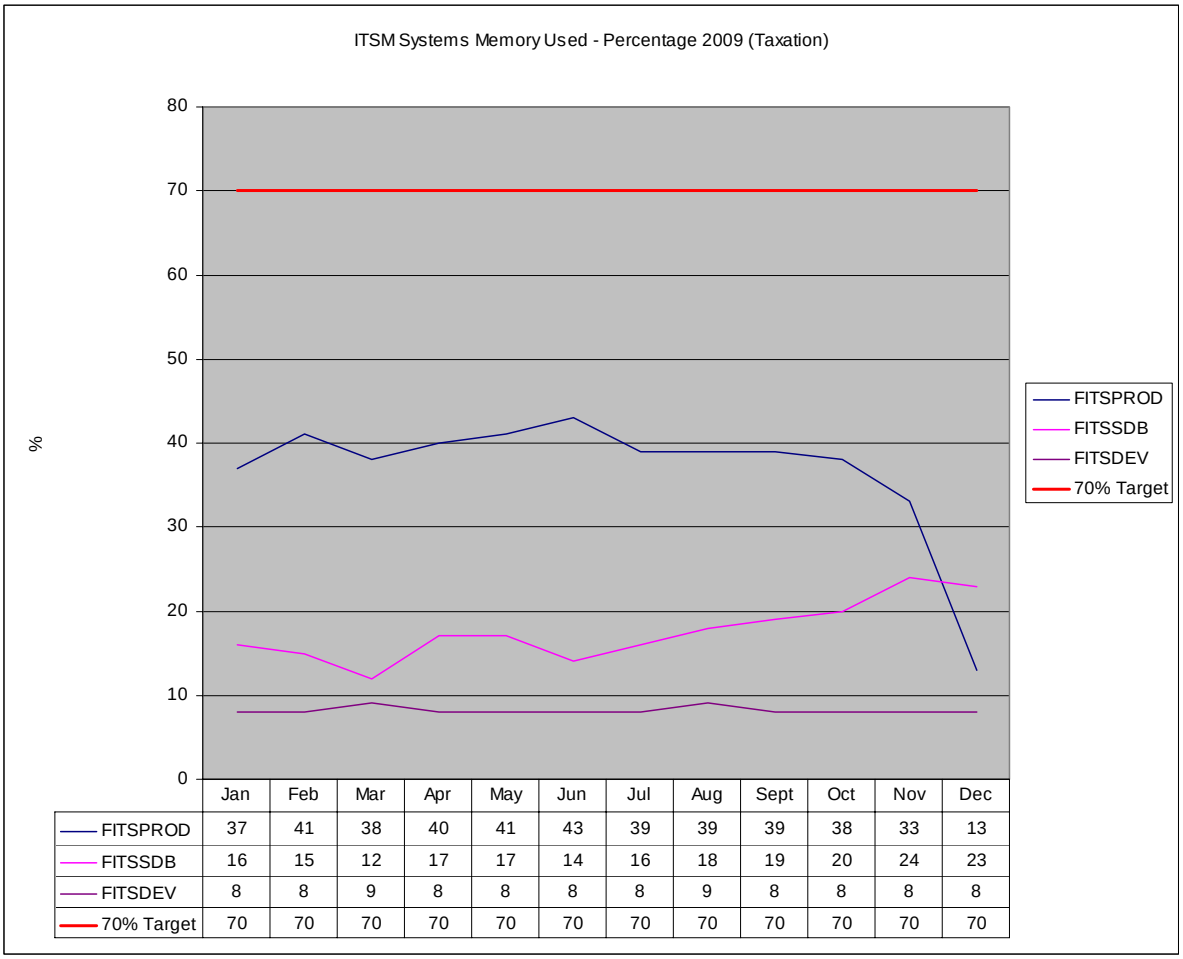
In July 2008 a lot of the underlying infrastructure for the ITSM hosted systems has changed. The systems are now virtualised which means that the applications no longer run on their own dedicated physical server, but that these applications now run in a virtual environment (VMware) where the physical resources are shared amongst multiple VMware images. We notice some gaps in the monthly statistics caused by the fact that the machine was deployed with a new image, which reinitializes the historical statistics. Actions where taken as to prevent this from happening in near future.

Source: ITSM Monitoring, based on the average amount of used memory per month.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
CS/MIS											18	18
CS/RD						25	20	17	18	17	20	19
CS/RD TEST-PROD		10	12	12	14	15	16	12	14	13	15	15
SQLDB	9	9	14	19	18	19	20	20	20	21	18	18
SVORADB1	13	12	13	12	13	13	16	15	16	15	15	14
SVORADB2	3	4	6	4	5	5	5	5	5	6	5	4
Web2000												
70% Target	70	70	70	70	70	70	70	70	70	70	70	70

Figure 47: Percentage of memory used – ITSM systems (Customs) - 2009



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
FITSPROD	37	41	38	40	41	43	39	39	39	38	33	13
FITSSDB	16	15	12	17	17	14	16	18	19	20	24	23
FITSDEV	8	8	9	8	8	8	8	9	8	8	8	8
70% Target	70	70	70	70	70	70	70	70	70	70	70	70

Figure 48: Percentage of memory used – ITSM systems (Taxation) - 2009

Resource Forecast

From "Figure 46 Percentage of memory used – ITSM systems (Customs) – 2009" it can be concluded that on average the memory utilisation by the ITSM hosted systems of the Customs Business Thread is fairly stable.. The maximum utilisation is never above 45%. With the target maximum of 70% (see Table 7-1: Capacity Targets) the systems are safe below the maximum level.

From "Figure 47 Percentage of memory used – ITSM systems (Taxation) – 2009" it can be concluded that FITSPROD memory utilisation has decreased the last 2 months. With the target maximum of 70% (see Table 7-1: Capacity Targets) the systems are safe below the maximum level.

Conclusion

Based on the statistics and the findings above, the following is concluded:

- The current percentage of memory utilisation for the ITSM hosted systems (eCustoms) is very acceptable and the amount of memory installed, based on the current statistics, sufficient to deal with organic growth in the year to come;
- The impact of the business plans on memory utilization is currently unknown and remains to be investigated. The associated metrics must be defined and a translation model developed in order to conclude the impact of the business plans and the business forecasts;
- The current available historical statistics are not sufficiently long ranging to conduct a thorough analysis with. Therefore no firm conclusions about long term organic growth, utilization patterns and trends have been included.

7.4 CPU

Generic Information

In order to deliver a CPU usage capacity analysis and forecast that can be used to properly plan the foreseeable year, CPU usage numbers need to be available for a significant period of time, including the frequency of peak usages, preferably one or more years, in order to recognise seasonality influences as a separate factor from trend. This will be done within the next yearly updates of the present document.

Scope of monitored resources

CPU usage monitoring data is aggregated to a high level thereby indicating the most important bigger systems. The table below gives an overview of the systems supporting the delivery of the services identified in the previous chapter.

Scope of resources monitored for CPU usage

SYSTEM NAME	DATACENTER	CPU USAGE MONITORING TOOL
Mastodon	DC DIGIT	BMC Patrol
Mammoth	DC DIGIT	BMC Patrol
Alpha 5	DC DIGIT	BMC Patrol
Charlie8	DC DIGIT	BMC Patrol
CSMIS	DC ITSM XXX	SCOM
CSRD	DC ITSM XXX	SCOM
CSRD-TEST-PROD	DC ITSM XXX	SCOM
Web2000	DC ITSM XXX	SCOM
SVORADB1	DC ITSM XXX	SCOM (previously called: DELL-ORA-CLU-1)
SVORADB2	DC ITSM XXX	SCOM (previously called: DELL-ORA-CLU-2)
SPEED1, SPEED2, SPEED3	DC ITSM XXX	<<unknown yet – new application>> prod, sat, conf
Server8	DC ITSM XXX	No automated CPU usage monitoring/reporting
Server9	DC ITSM XXX	No automated CPU usage monitoring/reporting
Server20	DC ITSM XXX	No automated CPU usage monitoring/reporting. Will replace Server8
Server21	DC ITSM XXX	No automated CPU usage monitoring/reporting. Will replace Server9
“PSP servers“	DC ITSM XXX	No automated CPU usage monitoring/reporting
FITSPROD	DC ITSM XXX	SCOM
FITSDEV	DC ITSM XXX	SCOM
FITSSDB	DC ITSM XXX	SCOM

Table 7-6: Scope of Resources Monitored for CPU Usage

Statistics

Problems regarding performance/capacity issues

From source: Problem Management Annex to the MSR [R7] the following problem overview is created:

Capacity related Problems

PROBLEM ID	REGISTRATION	TITLE	CATEGORY
-	-	-	-

Table 7-7: CPU – Capacity Related Problems

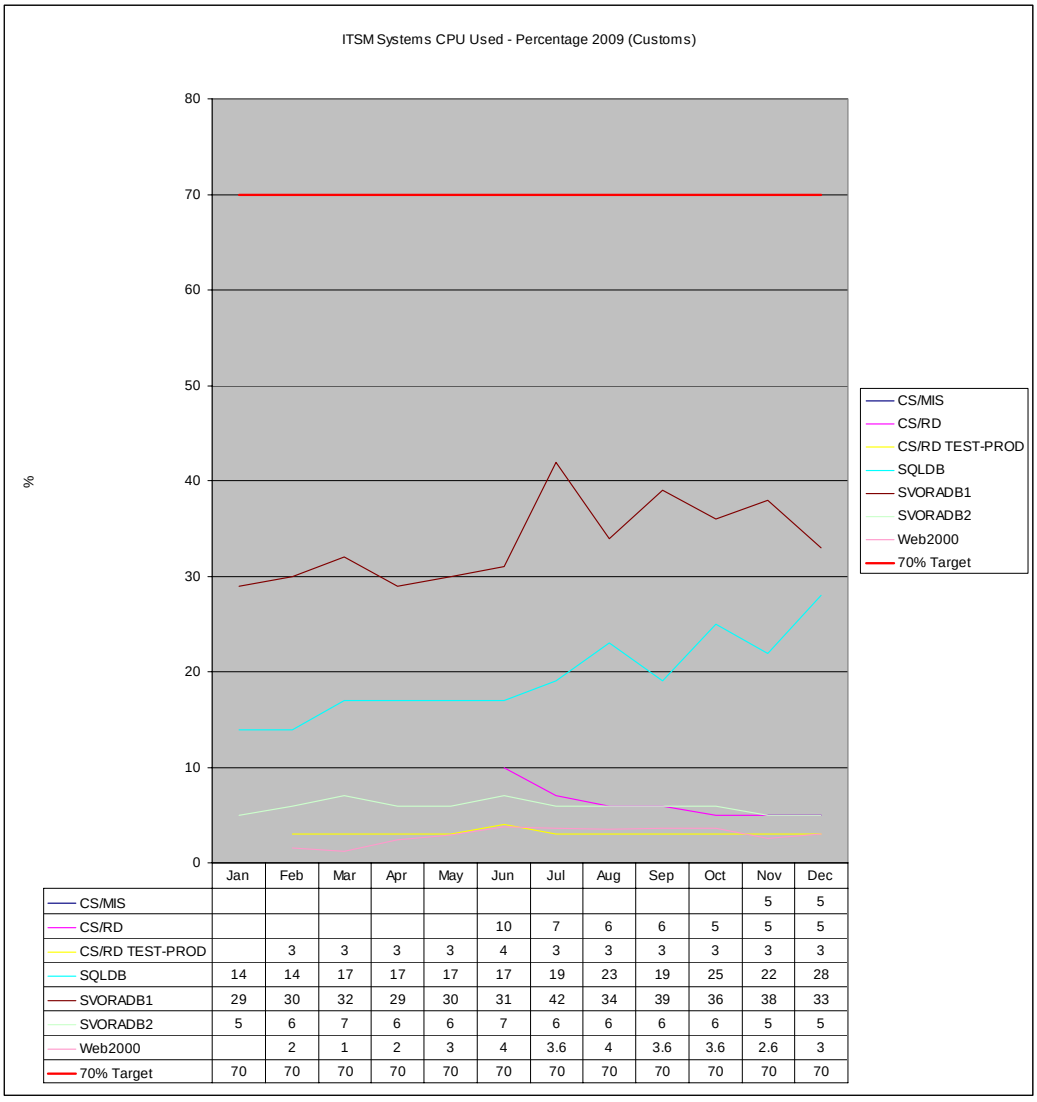
No capacity related problems regarding CPU utilisation have been registered.

CPU utilisation evolution for DIGIT hosted systems

For the systems hosted at DG DIGIT there is currently no CPU utilisation data available to perform a capacity analysis with. A recommendation is made as part of this plan to put in place a procedure that will ensure a structured and monthly recurring delivery of the required data to ITSM in order facilitate proper CPU Capacity Planning in the near future.

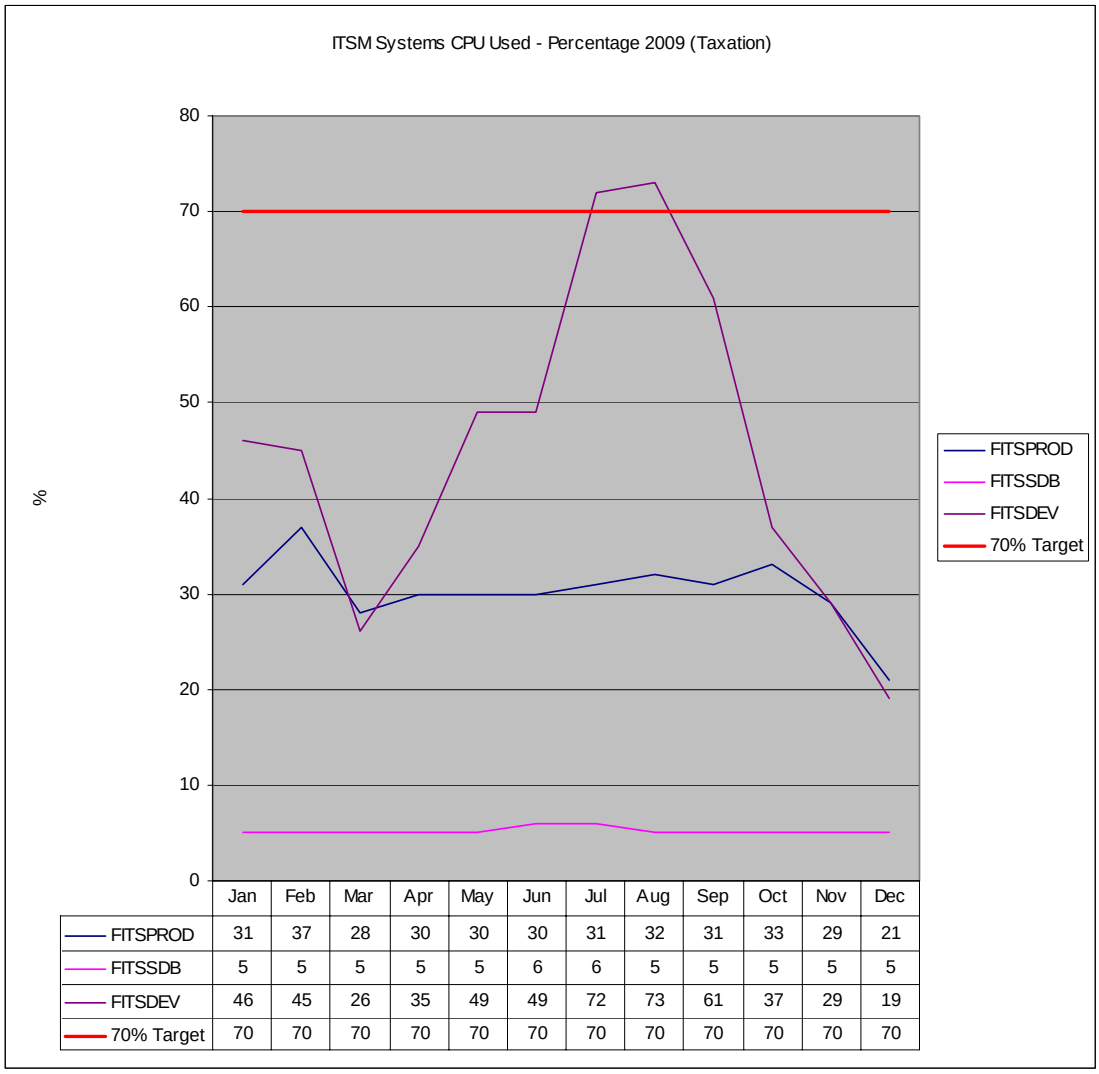
CPU utilisation evolution for ITSM hosted systems

In July 2008 a lot of the underlying infrastructure for the ITSM hosted systems has changed. CPU trend analysis is based only upon the available data, i.e. on the data obtained by dedicated tools monitoring the XXX managed infrastructure. Source: ITSM Monitoring department.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
CS/MIS											5	5
CS/RD						10	7	6	6	5	5	5
CS/RD TEST-PROD		3	3	3	3	4	3	3	3	3	3	3
SQLDB	14	14	17	17	17	17	19	23	19	25	22	28
SVORADB1	29	30	32	29	30	31	42	34	39	36	38	33
SVORADB2	5	6	7	6	6	7	6	6	6	6	5	5
Web2000		2	1	2	3	4	3.6	4	3.6	3.6	2.6	3
70% Target	70	70	70	70	70	70	70	70	70	70	70	70

Figure 49: CPU used - ITSM systems (Customs) - 2009



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
FITSPROD	31	37	28	30	30	30	31	32	31	33	29	21
FITSSDB	5	5	5	5	5	6	6	5	5	5	5	5
FITSDEV	46	45	26	35	49	49	72	73	61	37	29	19
70% Target	70	70	70	70	70	70	70	70	70	70	70	70

Figure 50: CPU used - ITSM systems (Taxation) – 2009

Resource Forecast

From "Figure 49 CPU used – ITSM systems (Customs) – 2009", it can be concluded that on average the CPU utilisation by the ITSM hosted systems (excluding Taxation) is stable. CPU utilisation for some systems is very stable while other systems show more rapid increases and declines. The maximum utilisation is never above 45%. With the target maximum of 70% (see Table 7-1: Capacity Targets) the systems are well below the maximum level. Still we should follow up the SQLDB which shows an increasing trend on CPU usage.

"Figure 50 CPU used – ITSM systems (Taxation) – 2009" presents a view of the Taxation systems CPU utilisation. It is clear from the chart that there are quite some CPU peaks for the FITSDEV where even the maximum target of 70% were exceeded, but became rather stable again.

A long term forecast based on only a couple of months of data is not of much use or effective.

Conclusion

Based on the statistics and the findings above, the following is concluded:

- The current percentage of CPU utilisation for the ITSM hosted systems of the eCustoms Business Thread is very acceptable and the amount of CPU power installed will be sufficient to deal with organic growth in the year to come.
- The CPU utilisation of the ITSM Taxation systems is acceptable. The registered peaks of FITSDEV do exceed the 70% target however the duration and period during the day these peaks occur must be analysed in order to establish the true impact on daily operations. The average utilisation reported might be misleading due to the fact that all measurements are averaged. The aggregation level per month were based on an average value of the data per day. Contributing factors must be investigated and options to balance workload established in order to proactively prevent possible escalations. The outcome of the investigation will ultimately determine if the available CPU resources are capable of supporting organic growth. Investigations were done, during that peek, there were some system changes which impacted the load. For near future no CPU problems are expected.

- The impact of the business plans on CPU utilization is currently unknown and remains to be investigated. The associated metrics remain to be defined and a translation model developed in order to conclude the impact of the business plans and the business forecasts.

7.5 Network bandwidth and CCN network traffic volumes

7.5.1 Network bandwidth

Generic Information

Scope of monitored resources

Monitoring and reporting the network bandwidth is under the responsibility of another contractor: CCN/TC. The next update of this plan will include as much as possible and if provided the bandwidth and latency statistics (when available and provided by CCN/TC) of the hosting sites of Commission IT Services: DG DIGIT and ITSM.

Scope of resources monitored for Network Bandwidth	
DATACENTER	NETWORK BANDWIDTH MONITORING TOOL
ITSM	XXX (Equant trend report)
DG DIGIT	XXX (Equant trend report)

Table 7-8: Scope of Resources Monitored for Network Bandwidth

Statistics

Problems regarding performance/capacity issues

Management of problems is reported and managed by orange business services and therefore no problem statistics are included in this section.

Network bandwidth utilisation evolution for DG DIGIT data centre

The graph below gives a graphical representation of the in and outgoing network bandwidth utilisation of the data centre of DG DIGIT. Main lines are 3390K, and each location always has a backup line of 1984K.

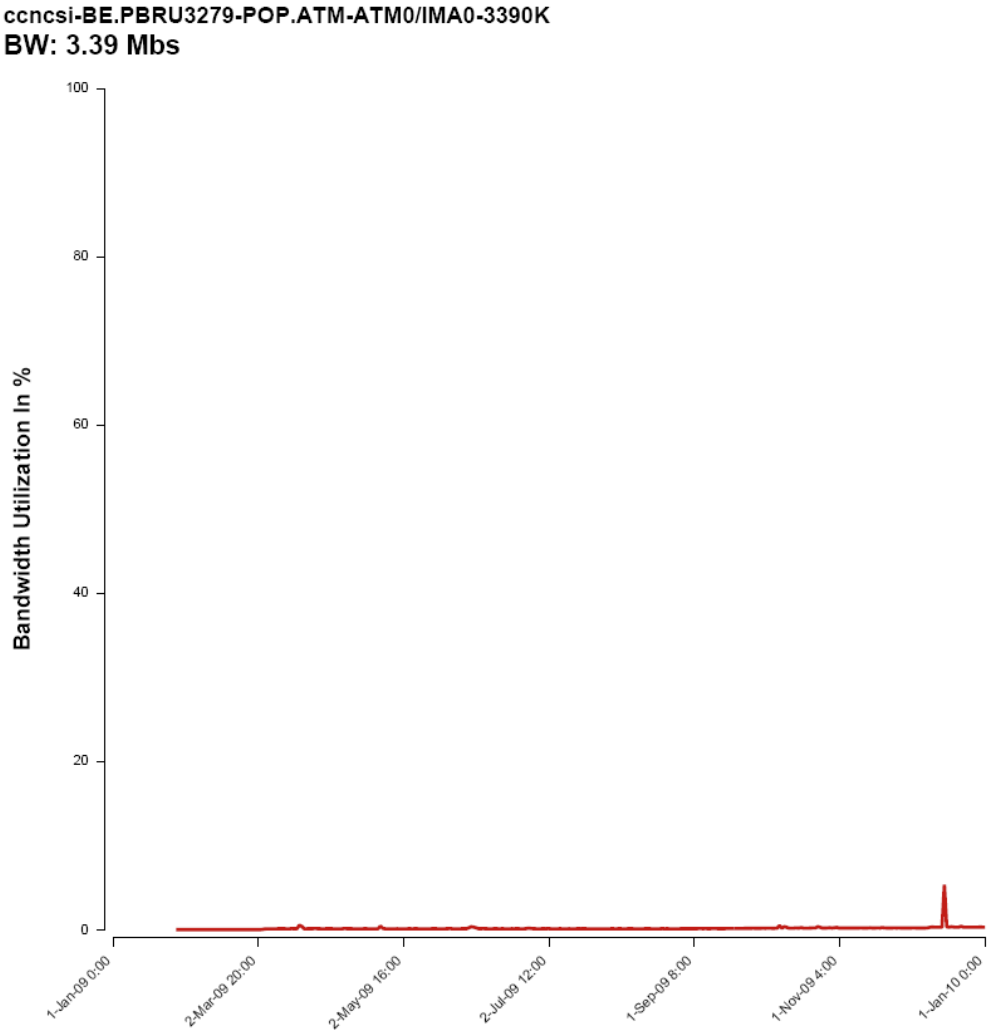


Figure 51: Network bandwidth utilisation evolution for DG DIGIT data centre Machelen

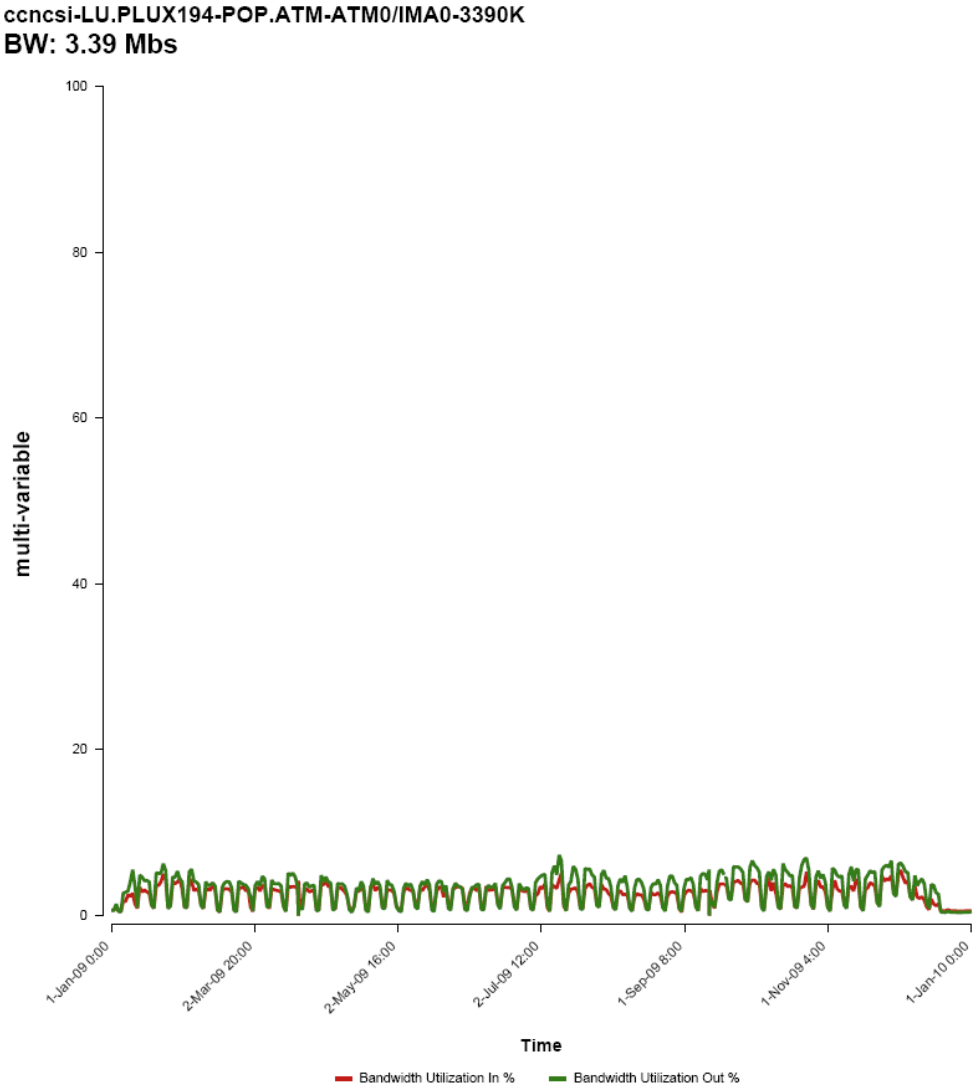


Figure 52: Network bandwidth utilisation evolution for DG DIGIT data centre Kirchberg

Network bandwidth utilisation evolution for ITSM data centre

The graph below gives a representation of the in and outgoing network bandwidth utilisation in % for the data centre of ITSM.

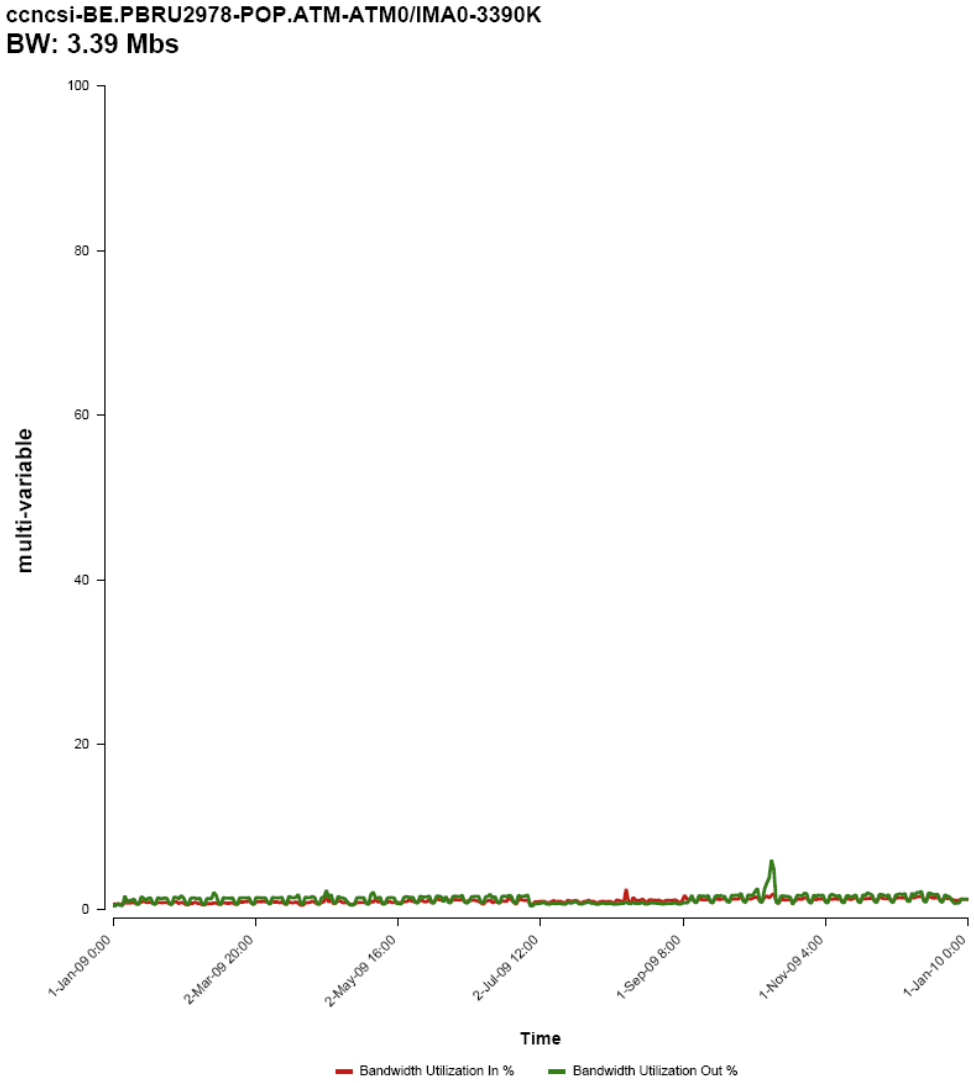


Figure 53: Network bandwidth utilisation evolution for ITSM data centre

7.5.2 CCN Network traffic volumes

The total number of statistics measured as seen in the traffic matrix extracts show an increase in the number of messages but a decrease in the average size. However until now no maximum limit is known.

TOTAL	MSG NBR	TOT SIZE	AVG SIZE
2008	**289958281**	**630854**	460
2009	**333770509**	**1092688**	305
Change %	15%	73%	-34%

Table 7-9: CCN messages and size

7.5.2.1 Customs

No individual analysis has been done of this Business Thread

There was a merge of the Business Thread NCTS and eCustoms, now consolidated also into this Business Thread, so the representative total for Customs has changed this year, in consideration with last year.

7.5.2.2 Excise

No individual analysis has been done for this Business Thread

7.5.2.3 Taxation

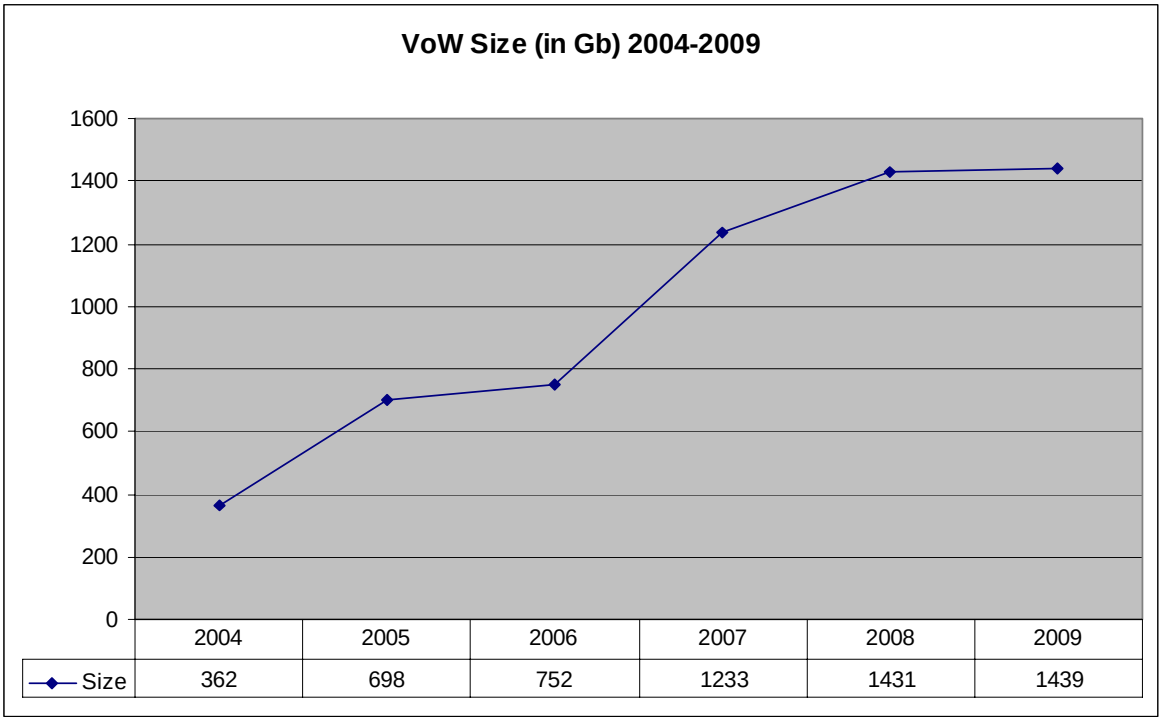


Figure 54: VoW traffic 2004-2009

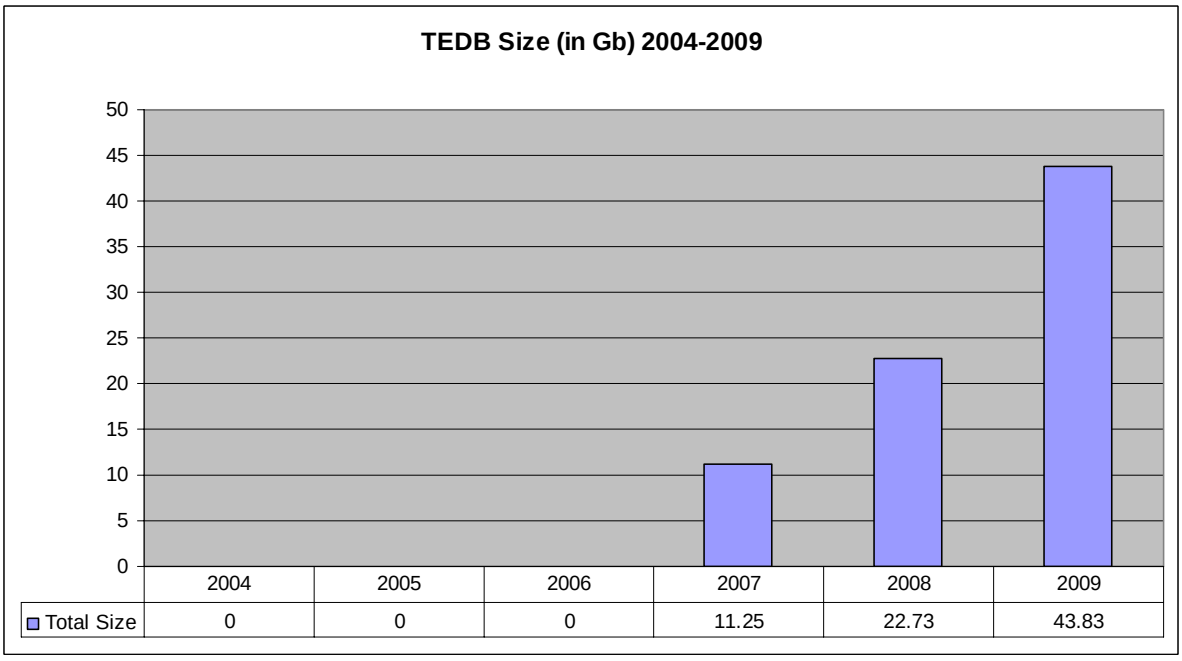


Figure 55: TEDB Traffic 2004-2009

7.5.3 CCN Network traffic volume forecast

Forecasting can be provided when sufficient and representative statistics are gathered. Enough information explaining the historical peaks and falls, must be available in order to draw conclusions. Future behaviour of applications must be explained and communicated. Also the impact of application version changes or functionality replacements.

Customs : No forecast is included for this specific Business Thread

Excise: No forecast is included for this specific Business Thread

Taxation: Based on the statistics previously gathered the following forecasts are made.

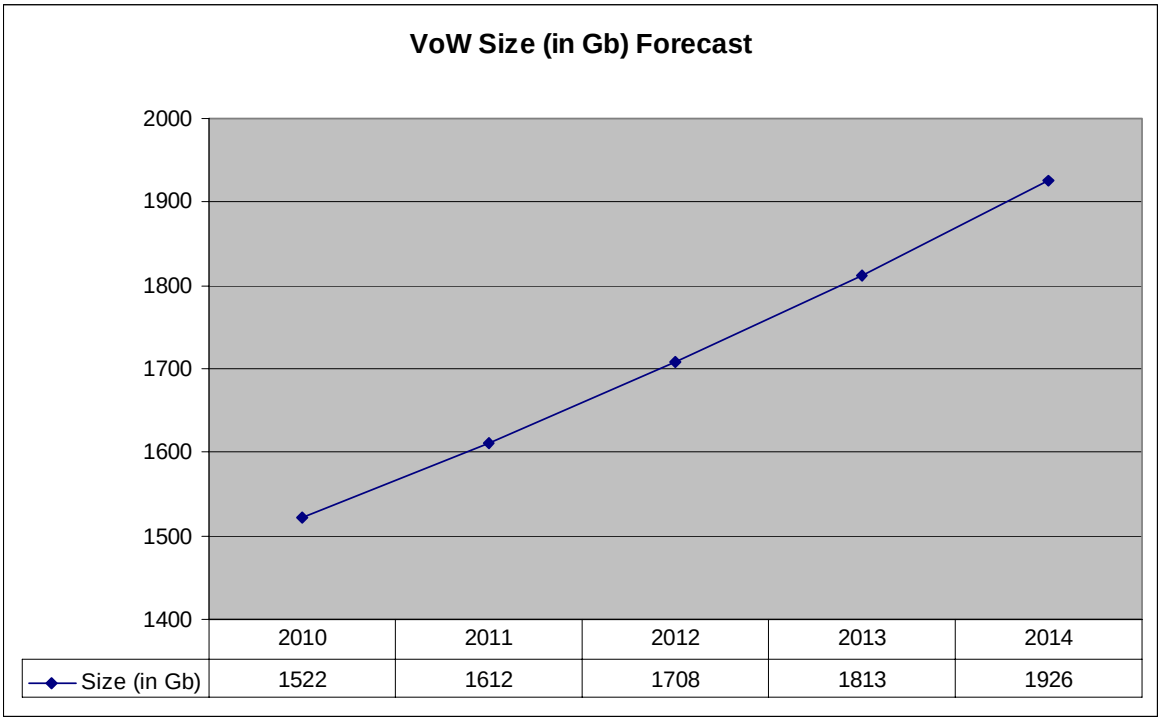


Figure 56: VoW traffic Forecast 2009-2014

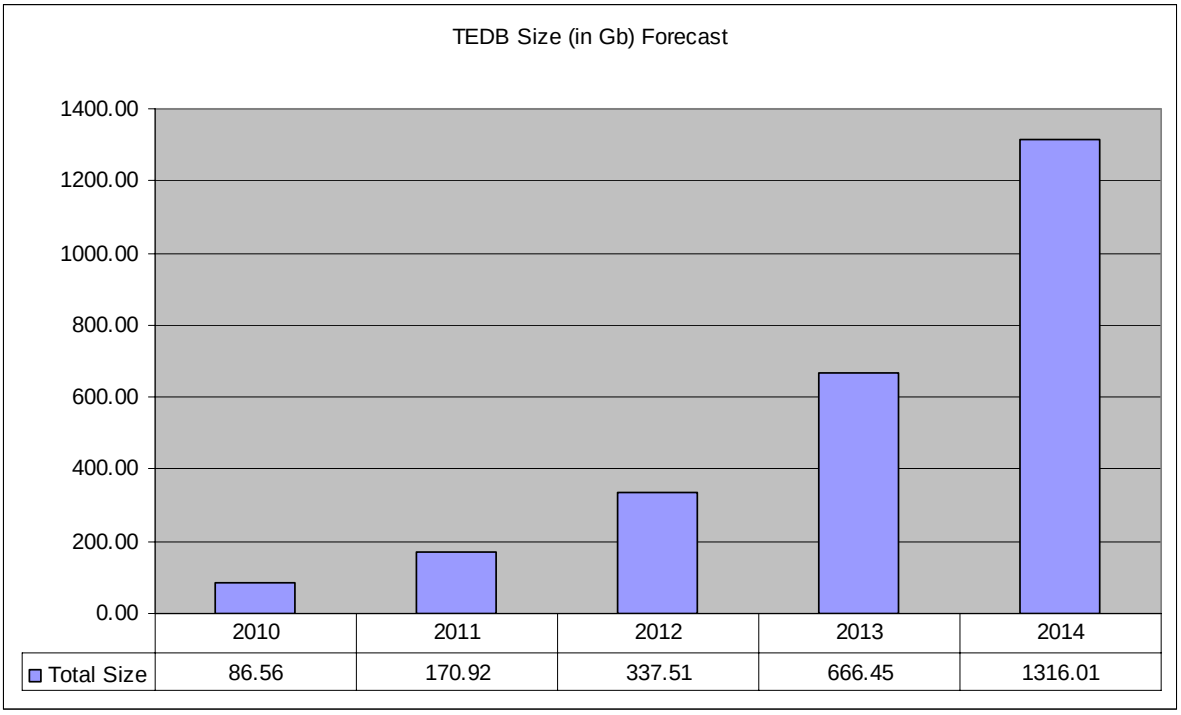


Figure 57: TEDB Traffic Forecast 2009-2014

7.5.4 Conclusion

Based on the statistics and the findings above, the following is concluded

- Network bandwidth is showing no significant bottlenecks for the utilised datacentres. Therefore no immediate actions are required.

- CCN network traffic volumes show an overall increase of around 15% in the total number of messages. The average size however drops with -34%. Therefore no immediate actions are required. However network bandwidth and network latency of the CCN backbone should be investigated.

8. Capacity Management Improvement Recommendations

8.1 Introduction

This chapter contains an overview of the current status of recommendations defined in the previous version of the Capacity Plan, as well as a full overview of recommended improvement actions on various areas which are defined to resolve the findings described in previous chapters.

Each recommendation has a priority assigned to it which indicates the impact and/or urgency. This priority can be used to decide which actions will be executed first in order to prevent foreseeable capacity bottlenecks.

Where possible the recommendation is quantified in terms of:

- The business benefits to be expected;
- The potential impact of carrying out the recommendations;
- The risks involved;
- The resources required;
- The timescale.

Based upon the capacity analysis and review a list of findings, issues and recommended improvement actions are identified in this Capacity Plan.

Shortly after the publishing of this Capacity Plan a follow-up meeting needs to be organised with all stakeholders to define the actions which will have to be executed, based on the recommendations. The approved actions should become part of the Continuous Service Improvement Programme (CSIP).

The goal of these actions is to improve the effectiveness and efficiency of Service Delivery in general and Capacity Management in specific.

8.2 Recommendations from Previous Capacity Plan

This section contains a summary of the recommendations made in previous versions of the Capacity Plan and their current status. All recommendations are reviewed for their success, accurateness on the predicted results and the proposed timescale. The goal of this paragraph is to learn from mistakes and continue to improve the Capacity Management process.

Capacity recommendations from previous Capacity Plan				
ID	RECOMMENDATION	PRIORITY	STATUS	REVIEW

B1	Work with ITSM Business Perspective Management to gain more insight in the long-term business plans as input for the Capacity Plan.	H	Ongoing, will be reported as a CSIP	Meeting structure will be organised with the BTM/sector leaders will be reported as a CSIP. Also the actual live dates of the Business Plans that were implemented should be retrievable somewhere
B2	Capacity requirements are not always clearly specified during application and infrastructure design	M	Cancelled	Investigations needed
S1	End user response time monitoring	M	Cancelled	Investigations needed
S2	Business Transaction data for TARIC is missing	L	Cancelled	Investigations needed, Priority lowered
R1	No Capacity Database is implemented	M	Started	Inventory will be made of the most important datasources used for the capacity plan
R2	No network bandwidth statistics readily available for ITSM hosted systems	M	Solved	Network statistics are included for the ITSM datacenter and DIGIT datacenter
R3	No memory/CPU utilisation for DIGIT hosted systems is reported.	M	Cancelled	
R4	For the DIGIT hosted systems “Mammoth” and “Charlie8” the disk space usage is way above the target of 70% resources used.	M	Cancelled	
R5	For some of the Taxation hosted systems the disk space usage exceeds the 70% target.	M	Cancelled	
R6	The server “FITSDEV” is regularly peaking above the 70% target and showing an average memory utilisation which is near the 70% target.	H	Solved	
R7	A constant memory utilisation of near the 100% is reported for the server “FITSPROD”.	H	Solved	
R8	No baselines are defined for the services and/or resource components.	L	Cancelled	Monitoring is already dealing with a lot of these, and are still continuing. Incidents are raised when thresholds are exceeded. Problematic ones are being commented in the MSR/MPR reports.
R9	No longer used data/files is not being removed/cleaned up automatically/periodically.	M	Cancelled	Too generic, see a more specific recommendation R10
P1	Capacity Management is not always involved in the Change	M	Started	Change management is involving Capacity management as to check

	Assessment phase	which relevant info is needed for assessment, this info has been given

Table 8-1: Capacity Recommendations from Previous Capacity Plan

8.3 New Business Scenario recommendations

The following table captures the most important business scenarios findings and the defined recommendations:

New Business Scenarios recommendations			
ID	FINDING	RECOMMENDATION	PRIORITY
B3	ITSM BT is missing	XXX: Include it in the next version	H
B4	Naming conventions applications in scope	XXX: Use a standard naming convention based on xx for all	M
B5	DMZ infrastructure not listed	Currently a whole infrastructure change is taking place in DMZ-zone XXX : Reconsideration is needed when defining the scope as to include	L
B6	Conformance Test environments not in Service & Business capacity chapter	XXX : Reconsideration is needed when defining the scope as to include	L
B7	7.5.2.1 & 7.5.2.2 CCN Network traffic Volumes for Customs & Excise	XXX : Reconsideration is needed when defining the scope as to include	L

Table 8-2: New Business Scenarios recommendations

8.4 New Service Capacity Management Recommendations

The following table captures the most important Service Capacity Management findings and the defined recommendations:

Service Capacity Management recommendations			
ID	FINDING	RECOMMENDATION	PRIORITY
S3	ART messages	We will contact CCN/TC as to review the increase trend of messages listed on pg 56	M

Table 8-3: New Service Capacity Management recommendations

8.5 New Resource Capacity Management Recommendations

The following table captures the most important Resource Capacity Management findings and the defined recommendations:

New Resource Capacity Management recommendations			
ID	FINDING	RECOMMENDATION	PRIORITY

R10	Also the possible decrease or elimination of unused resources should be considered	Investigations were made for database CDTA , Oracle 10.2.0.2 on server13 (AIX 5.2) which seems no longer used. Last insertion in table AUDIT_IEDATA on 24.09.2008 and this was verified in 02/2010 which means allready 1,5 year no entries.	L
R11	Database CSMIS	The growth rate is approx. 10% every 3 months, at this rate disk space will last only for 3 months for backups, and 4 months for data. Immediate extension was asked through change management	H

Table 8-4: New Resource Capacity Management recommendations

8.6 New Capacity Management Process Recommendations

In order to get Capacity Management up and running some specific process implementation actions need to be performed. These are stated below.

The following table captures the most important Capacity Management process findings and the defined recommendations:

New Capacity Management process recommendations			
ID	FINDING	RECOMMENDATION	PRIORITY
P2	Problem Management	More structural problem Management should be performed to periodically analyse the capacity- related incidents and identify capacity-related problems for this. The availability of problem data as listed in Annex 21 of the MSR/MPR reports [R7] ends in 04/2009. XXX cfr : No problem manager since 09/09	M
P3	Monitoring statistics and graphics are not always available anymore in comparison with the previous month.	Also consult capacity management when changing reports and graphs in the MSR reports.	M
P4	Reference doc TEMPO	Include and read Tempo reference in next version	L

Table 8-5: Capacity Management Process Recommendations

9. Annex 1 : CAP2013 Prototype document

9.1 Introduction

The attached documents (see paragraph 9.2) are a prototype, it aims to analyse the patterns of Service usage and contains a projection of the future use of Services based on the available historical statistics on a high aggregated level. It contains statistics and projections for the Taxation Thread and takes into account, as much as possible, any future business plans and the influence of these plans on Service usage. It also includes metrics required to establish the correlation between business activities, expressed in Application metrics, Service usage expressed in service metrics and Resource metrics. These metrics and the correlation between them remain to be worked out and agreed, and are required in order to translate Business activity into Service and Resource usage activity, but the principle of the modelling is present in this first prototype. Once all the Application metrics have been defined, agreed and mapped to the corresponding Service and Resource metrics, capacity projections are then later used as inputs into identifying the physical infrastructure necessary to support the anticipated growth.

The principle used to model the capacity requirements is as follows:

Application metrics are resulting into corresponding Service metrics based on the services used by the application (see also Figure 2). Following Service metrics are yet used in the prototype:

- CCN Asynch msg
- CCN Synch msg
- CCN http(s) msg
- CCN mail msg
- Internet http(s) msg
- Internet mail msg.

Identically, Service metrics are resulting in corresponding Resource metrics based on the resources used by the service (see also Figure 2). Following Resource metrics are yet used in the prototype:

- CPU capacity [% of total CPU]
- Mem capacity [% of total Mem]
- File storage capacity [GB]
- DB storage capacity [GB]
- Network bandwidth [Mbps]

The statistics used in this prototype include the amount of Service messages by type; CCN Asynchronous, CCN Synchronous, CCN HTTPS, CCN Mail messages as well as CCN traffic volume per message type. In some cases Application message types with their corresponding statistics have been used instead of CCN Service message type in order to calculate the amount of CCN messages. This is due to the fact that relevant information is not always available and/or lack of understanding in the correlation between Application message types and Service message types. The latter is especially the case when information sources produced by application development contain information and specifications on Application message type only.

Each system belonging to the Taxation Thread has a dedicated section with historical statistics ranging from (at a minimum) 2006 until 2008 and a projection until the year 2013 which is based on the identified growth trend, the impact of business plans and factors of influence if appropriate. This dedicated section includes assumptions and restrictions which are listed in a table and encompasses any factors of influence with a corresponding value. These sections are consolidated into a graphical representation for each system separately and subsequently the sum of the entire Taxation Thread presented in several consolidated views illustrating the overall evolution, the projections of each system combined and the relevant growth factors.

Currently not all systems belonging to the Taxation Thread are included however, this prototype does already include the structure to incorporate other Taxation systems and relevant data. There are currently several formulas used in this prototype for Taxation that will most likeley require adjustments and corrections. These formulas have been based on the interpretation of information retrieved from various sources and are based on best effort understanding. These formulas remain to be validated and agreed through close cooperation with application development teams and sector leaders in an iterative fashion until all formulas have been agreed and confirmed.

9.2 Documents

The prototype documents are the following excel sheets which are an annex to this deliverable :

- Main CAP2013 prototype v1.00.xls
- Taxation CAP2013 prototype v1.00.xls

*** End of document ***