

## VINST data set

**Company:** Volvo IT

**Issuer:**

**Date:** 2012-06-14

**Issue:**



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Ward Steeman		2012-06-14	
Approved by (name, phone)	Sign	Date	Valid

## 1. Concerned processes/general information

### 1.1. Incident Management

The primary goal of the *Handle Incidents Process* is **to restore normal service operation** (Normal service operation' is defined within Service Level Agreement (SLA)) as quickly as possible and by that ensuring that the **best possible levels of service quality** and **availability are maintained**.

#### Description

Most IT departments and specialist teams contribute to handling Incidents at some time. Incidents that cannot be resolved by the Service Desk or Expert Helpdesk **should be escalated to Second Line and/or Third Line teams**.

The process is mostly reactive. To react efficiently and effectively therefore demands a formal method of working that can be supported by software tools.

**A Work-around or Solution** should be established as quickly as possible in order to restore the service to normal with minimum disruption to the business. After implementing a Work Around or a Solution and verifying that the service is restored the Incident is closed. **If the Action Owner suspects that the Incident might reoccur a Problem record shall be registered.**

#### First Line

First line is the common name for Service Desk and Expert Help Desk

##### **Service Desk**

Service Desk is normally **the Single point of contact to advise, guide and assist in rapid restoration of normal services to its customers and users.**

The Service Desk can be divided into the following type of support teams:

**Front Desk, Offline Desk and Desk Side Support** where Offline Desk can be both local and global teams.

##### **Expert Help Desk**

Expert Help Desk is the entry point for end user support on specific services e.g. application support. Expert Helpdesk is an additional service agreed upon with the customer.

The Expert Helpdesk can be divided into the following types of Support Teams:

**Front Desk and Offline Desk** where Offline Desk can be both local and global teams.

##### **Second line**

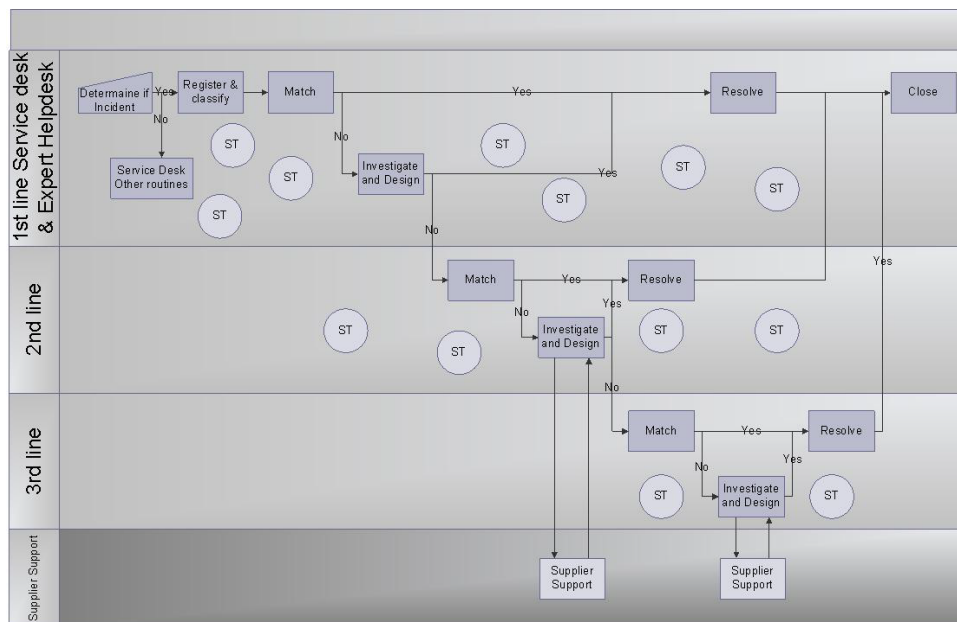
**The Second line is taking care of Incidents that can not be resolved within First line.** The Second line could be a support team within Org line C or a support team working with Org line A2.

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## Third line

Third line is experts in their product area, could be a support team within Org line C or a support team working with Org Line A2. The Third line is taking care of Incidents that can not be resolved within the Second line function.

## Support Organisation Structure



## Impact

Impact is a measure of the business criticality of an Incident often equal to the extent to which an Incident leads to degradation of agreed service levels. Impact is often measured by the number of people or systems affected. Criteria for assigning Impact level should be set up in the SLA's and below you find EXAMPLES of criteria's for the different Impact levels.

The Impact levels are:

### Major

**Major Business Impact Incidents** are those Incidents that have very high visibility to the Customer and/or have a defined major impact on a given service.

An Incident is of Impact Major when the service is regarded as unavailable by the User / Customer and affects a critical System/Service or if access is lost which incapacitates an entire site or threatens to compromise all sites

Business Impact Major Incidents are defined as:

- Incidents that may disrupt plant production and result in lost units of production.
- Incidents that impact a particular system that has been identified as critical or is a new occurrence of a repeated Impact Level High Incident over a short period of time
- Incidents that impact a site, several dealers, large workgroup or key business process for which the incident may result in:
  - Vehicles / Product cannot be designed



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- Vehicles / Product cannot be delivered or ordered
- Service to customer cannot be performed
- Cash flow is negatively impacted
- Customer's revenue or public image affected

Examples of Major Incidents includes (but is not limited to):

- Server Incidents which may result in loss of service to Customer.
- Wide/Local Area Network Incidents affecting several users.
- Lost production units due to an Application or Infrastructure incident.

A Major Incident has to be resolved with high attention from all parties involved.

#### **High**

**High Business Impact Incidents** are those Incidents that have high visibility to the Customer and/or have a defined high impact on a given service.

An Incident is of Impact High when the service is regarded as unavailable by the User / Customer and affects an important System/Service or if access is lost which incapacitates a site or threatens to compromise other sites

Business Impact High Incidents are defined as:

- Incidents that may disrupt plant production and result in lost units of production.
- Incidents that impact a particular system that has been identified as important or is a new occurrence of a repeated Impact Level Medium Incidents over a short period of time
- Incidents that impact a site, dealers, workgroup or key business process for which the incident may result in:
  - Vehicles / Product cannot be designed
  - Vehicles / Product cannot be delivered or ordered
  - Service to customer cannot be performed
  - Cash flow is negatively impacted
  - Customer's revenue or public image affected

Examples of High Incidents includes (but is not limited to):

- Server Incidents which may result in loss of service to Customer.
- Wide/Local Area Network Incidents
- Lost production units due to an Application or Infrastructure incident.

#### **Medium**

**Medium Business Impact Incidents** are those Incidents that have limited visibility to the Users and/or have limited impact to a given service such that it may be viewed as operational, but in a degraded mode, by the User.

Business Impact Medium Incidents are defined as:

- A small share of the Customer base is affected.
- An Incident which does not negatively impact the Customers ability to meet its service levels.
- An Incident which will not result in Volvo IT not being able to meet their service level commitments.
- Incidents that occur outside the scope of IT services but with an impact on IT services such as a power outage.



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Examples of Medium Impact Incidents include:

- Server Outage but minimal impact since Customer employees is on holiday.
- Power outage for switches and routers, however users had local services in building.

#### **Low**

**Low Business Impact Incidents are** those Incidents that have low visibility to the Customer and/or have minor impact to a given service and do not limit the User in functionality.

Low Impact Incidents are defined as:

- A very small share of the Customer base is affected and the Incident has low visibility.
- A User can still achieve full functionality and normal performance as long as the circumvention procedure is followed.

#### **Urgency**

Urgency is about the necessary speed of solving an Incident of a certain impact to the user.

*""a measure of the criticality of an Incident for the User and about the necessary speed of solving an Incident of a certain impact""*

The Urgency level is determined together with the User at time of reporting the Incident.

The Urgency levels are:

#### **High**

- The problem has a very high influence on the Users work at the time of reporting the Incident

*Examples:*

- In the end of the year when closing of the books his/her PC breaks down for the head account manager
- A printer breaks down on the production line that might cause a delay in production and finally a stand still

#### **Medium**

- The problem has influence on the Users work at the time of reporting the Incident

*Examples:*

- The account manager needs to make financial reports for the Account manager meeting tomorrow and his application is down
- A printer breaks down on the production line but the backup printer in the next building is fully operational

#### **Low**

- The problem has an low influence on the Users work at the time of reporting the Incident

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*Examples:*

- The Account manager needs to make financial reports for the Account manager meeting next week and his application is down
- A printer breaks down on the production line but the backup printer next to it is fully operational

## Priority

The priority of an Incident is determined by the Impact on the business and the Urgency for which a Work Around or Solution is needed. The Impact level, agreed with the customer and embodied in an SLA, together with the Urgency level, agreed with the User, is translated to a **Priority level**. The Priority level is for internal use and guides the support personnel in solving Incidents in the correct order of Impact and Urgency for Volvo IT customers.

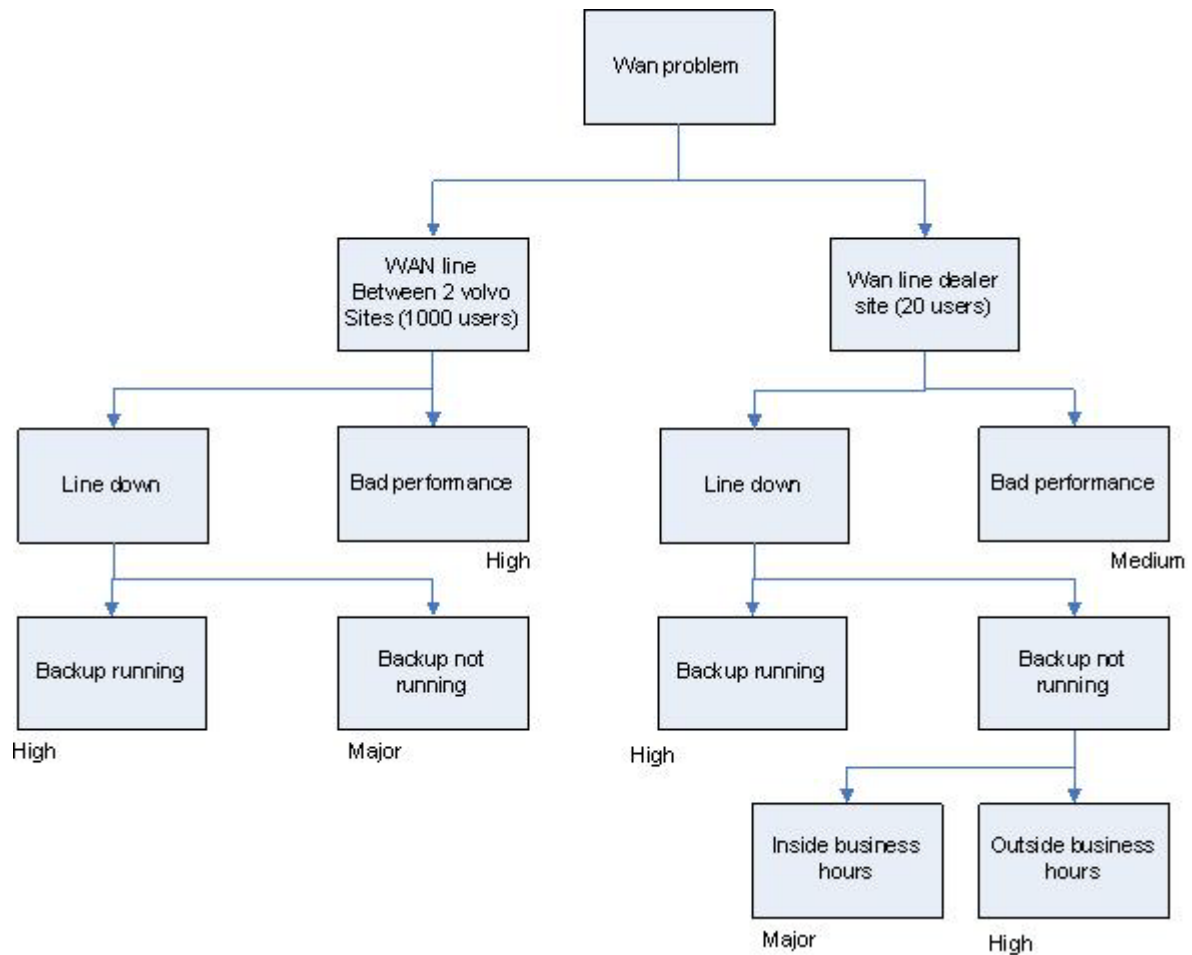
If the Incident is not handled within the specified time frame (according to SLA), the priority of the Incident shall be increased as described in the Escalation matrix in section 6.3. However an Incident can never rise automatically between the different levels of Impact.

Note: Urgency and priority does not need to follow any rules during a Major Incident

	Major Impact	High Impact	Medium Impact	Low Impact
High Urgency		4	7	10
Medium Urgency		5	8	11
Low Urgency		6	9	12

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## 1.2. Problem management

### Description

The process describes how to handle Problems in the IT-services delivered and/or operated by Volvo IT

Handle Problems includes the activities required to diagnose the root cause(s) of Incidents and to secure the resolution\* of those Problems to enhance the quality of IT-services delivered and/or operated by Volvo IT.

Handle Problems should also, when applicable, verify and update Work Arounds in the knowledgebase, so that the best possible Work Around is available during the lifecycle of the problem.

**It is primarily the responsibility of 2nd and 3rd line Support Teams to work with Problem Management**

This means there is no push to front idea about the problem management process (compared to the incident management process)

Handle problems works together with other processes like Handle Incidents Monitor service, Discover & Define Opportunity, Develop, Deploy & Provide and Manage Service Change etc to ensure that IT service availability and quality are increased.

The main purpose of Handle Problems is to identify the real Root Cause of a Problem and secure the resolution.

When Incidents are resolved, information about the resolution is recorded. Over time, this information is used by Handle Problems to determine permanent solutions thereby reducing the number of Incidents resulting in increased availability and less disruption to the business.

Value derived:

- Higher availability of IT services
- Higher productivity by business and staff
- Reduced expenditure on workarounds or fixes
- Reduction in cost of effort in restoring services and resolving recurring Incidents.

All Major Incidents shall be followed by Problem Management

It is the responsibility of every action owner (ref. RACI) in the support organization to identify reoccurring Incidents and initiate work to remove the cause of these Incidents.

English is the recommended language in all Problem records

English is mandatory in Abstract and Description fields for All Problem records

Contact sending Action Owner if Problem record is transferred without being translated

All actions Closing details must be documented in the Vinst tool. (ref business rules)

Uncontrolled copy: Printed copies are uncontrolled and to be used for reference only

## 1.3. VINST = the tool that mainly supports the two above processes

VINST is in use at every major Volvo IT location around the world . There are over 5000 registered users of VINST today .There are over 80,000 Requests registered in VINST every month



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VINST\_User\_Manual.  
pdf

## 1.4. Understanding the data sets

SR Number	Change Date+Time	Status	Sub Status	Involved ST Function Div	Involved Org line 3	Involved ST	SR Latest Impact	Product	Country	Owner Country	Owner First Name
1-364285768	2010-03-31 15:59:42	Accepted	In Progress	A2_4	Org line A2	L24	Medium	PROD582	fr	France	Frederic
1-364285768	2010-03-31 16:00:56	Accepted	In Progress	A2_4	Org line A2	L24	Medium	PROD582	fr	France	Frederic
1-364285768	2010-03-31 16:45:48	Queued	Awaiting Assignment	A2_5	Org line A2	L14	Medium	PROD582	fr	France	Frederic
1-364285768	2010-04-06 15:44:07	Accepted	In Progress	A2_5	Org line A2	L14	Medium	PROD582	fr	France	Anne Claire
1-364285768	2010-04-06 15:44:38	Queued	Awaiting Assignment	A2_4	Org line A2	L24	Medium	PROD582	fr	France	Anne Claire
1-364285768	2010-04-06 15:44:47	Accepted	In Progress	A2_5	Org line A2	L15	Medium	PROD582	fr	France	Anne Claire
1-364285768	2010-04-06 15:44:51	Completed	Resolved	A2_5	Org line A2	L15	Medium	PROD582	fr	France	Anne Claire
1-364285768	2010-04-06 15:45:07	Queued	Awaiting Assignment	A2_4	Org line A2	L24	Medium	PROD582	fr	France	Anne Claire
1-364285768	2010-04-08 11:52:23	Accepted	In Progress	A2_4	Org line A2	L24	Medium	PROD582	fr	France	Eric

### Problem or SR number

The unique ticket number for a problem or incident

### Problem change Date + time

Moment of status change

### Problem Status



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Queued, accepted, completed, closed

Problem sub-status

Assigned, awaiting assignment, cancelled, closed, in progress, wait, unmatched(?)

impact

level of impact the problem creates for the customer (major, high, medium, low)

organization (problem involved org line 3)

the business area of the user reporting the problem to the helpdesk

function division

The IT organization is divided into functions (mostly technology wise)

ST (support team)

the actual team that will try to solve the problem

country code

the location that takes the ownership of the support team

action owner

the person that works in a support team that is working with the incident. An action owner can transfer an incident or problem to another action owner within the same support team, or he can escalate or return a problem to another ST (Support Team)

## 1.5. Questions that process mining could perhaps provide answers for..

### 1.5.1. Push to front

This question relates to incident management (not problem management) and deals with the strategy/philosophy that **most of the incidents need to be resolved by the first line support teams** (mainly service desks). In general this makes the work more efficient. Without the push to front mechanism in place a lot of 'easy', big volume cases end up in the 2nd and 3rd line support teams which disturbs them from doing their core activity (which is generally not support)



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The push to front works if the 1st line support team can set the SR to resolve without interference of a 2nd or 3rd line support team

Questions:

- for what products is the push to front mechanism most used and where not?  
The product information is available in the 'corrected structure' field
- Where in the organisation is the push to front process most implemented (field =involved organisation), specifically if we compare the Org line A2 with the Org line C
- What functions are most in line with the push to front process?
- ...

#### 1.5.2. Ping Pong behaviour

This relates to both incident and problem management.

In an ideal world an incident is solved quick and with interference of not too many support teams. However, it occurs that support teams start to send incidents to each other again and again (ping pong) which off course is an unwanted situation. There is definitely a correlation between the ping pong behaviour and the total life time of an incident.

- What are the functions, organisation, support teams responsible for most of the ping pong?
- What products are most affected by it?

#### 1.5.3. Wait user

Knowing that there are a lot of KPI's measuring the total resolution time of an incident people try to find workarounds that stop the clock from ticking. One way of doing this is manually giving an incident the substatus 'wait user'. Although there are guidelines not to use this substatus (unless someone is really waiting for an enduser off cours), some people (action owners) are breaking this guideline.

- Who is making most use of this substatus (action owner)?
- What is the behaviour per support team, function, organisation etc?
- (mis)-usage per location?
- Etc
-



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#### 1.5.4. Process conformity per organisation

In general the Volvo IT organisation is spread in two organisations : Org line A2 and Org line C. It would be interesting to see how conform or how much in line every organisation is with the incident and problem management processes.