DELETED

Video Ways of Working (VWoW)

Formal meetings

Business Proposal

Video Ways of Working-room Venus in **DELETED**

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1 Problem description and background

Aim and goal of the investments and/or operative payments

Secure/keep existing Video Ways of Working installations by **DELETED**
Expand to more **DELETED** offices, suggested **DELETED** additional
locations.

What will we get if we spend the money

- Reduced travel and travel costs
- Meetings which due to budget and/or travel constraints would otherwise
  not have taken place leading to e.g. improved project work
- An international operation needs an efficient way of working
- Strengthened **DELETED** image; Customers, **DELETED** etc.

What do we want to do?

Keep the existing test systems in **DELETED**.

Keep the Multi Point Conference Unit in **DELETED**

Expand i.e. install simplified Video Ways of Working systems in
DELETED

This will give us a point-to-point and point-to-multi-point conferencing
with User friendly human interface for easy use and Audio & Video with high
quality.

This also gives **DELETED** an opportunity to expand to even more locations
later on if needed.

Driving force

Many people within **DELETED** state that video conferences have not been
successful. This has led to prejudices and difficulties often associated with Video
Conferencing, in the main "Video conferences are difficult to set up and use, of
poor quality".

At the same time an awareness that video conferences can significantly lower
travel costs, improve meetings and collaboration as well as quality exists.

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We have, with help from the Royal Institute of Technology (KTH), developed a video conference system which addresses these issues. We believe we have been successful. The test results and interviews of persons using the system verifies that we have achieved what we set out to do.

In fact we have a system which is very user friendly, easy to use and with a high quality at the forefront of user friendliness.

One clear indication that we have been successful is that **DELETED**, the main competitor to **DELETED**, asked us if they could try out their video codecs in our system.

The test system installed in **DELETED** and **DELETED** has been shown to address the following factors successfully.

- Very easy to use
- Eye-2-Eye (i2i) functionality
- Workspace adapted for video conference
- Audio/Video quality
- Document sharing

We believe this forms a basis for successful introduction, and use, of video conferences in **DELETED** main offices.

By using VWoW we show that we use modern technology and not old habits.

We also use a technology with **DELETED** services as a base.

Description of existing system

The current test installation in **DELETED** are full eye2eye-installations. See attachment 1 for description.

The installation in **DELETED** made for this test was a "traditional" video conference system. A change to **DELETED** standard VWoW installation has not yet been scheduled and is consequently not a part of this business proposal.

We recommend that future installations be made "portable" i.e. built and installed in such a way that no, or a minimum of, building works is necessary. This also means that the installation can be moved to a new location/conference room relatively easily.

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Agreements and arrangements that affect the
solution/current situation

Part of the installed test systems have been **DELETED**. This equipment i.e.
DELETED.

2 Market analysis and assumptions

DELETED has conducted a video conference test between **DELETED**
locations **DELETED**. In each of these locations equipment has been installed.

The Video Ways of Working test project goals were (as presented to
DELETED)

*** Quote ***
The expected direct outcome is a new effective way of working ready to be tested
and possibly implemented all over **DELETED** and available for all of
DELETED employees. The goal also is that the three different video ways of
working will be businesswise acceptable even when implemented in large scale.

A side effect of completing the project is that **DELETED** will be able to
demonstrate a practical use of IP-capacity.The main aim is to test and identify
Video Ways of working that will
- Enable an international management structure
- Minimise unnecessary traveling
- Enhance the combination of existing technology and **DELETED**
- Reduce poor quality costs

This project expects to deliver:
Three tested concepts for video Way of working
- Formal meetings
- Informal meetings
Personal meetings a.k.a. "virtual office"
*** un quote ***

Survey findings prior to test

"If I am represented in a meeting by a flat, brown conference telephone, which
everybody is literally looking down at; how can I feel being part of the group and
equally important when decisions are made?"

Successful implementation will
- Improve the quality of telephone meetings and especially the feeling of
  presence and equality are essential.
- Increase the possibility of meetings staff, both as a group and in one-on-
  one meetings.

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- Increase the possibility of attending new meetings.
- Reduce the risk of getting stuck somewhere or experiencing other security related issues attached to extensive travelling.
- Reduce our travel costs by a minimum of 12%

Other interesting aspects are savings in
- Time spent traveling
- Time wasted in and meetings, which were postponed or cancelled due to travelling problems.

Information from the test pilot

During the test period from **DELETED**, very positive results have been reached with relatively high use of the equipment and very positive reactions from the users.

It is interesting to note that - **DELETED** - decided to continue using VWoW for their weekly meetings having used it once.

For further information see attachment 2.

3 Alternatives

0. Do Nothing

Do nothing means we have to **DELETED**, i.e. dismantle the current test pilot installation.

Purchase of equipment: **DELETED**
Building works to restore the rooms to their original configuration:
ca **DELETED**

1. Keep the current installations in **DELETED**

We buy **DELETED**

DELETED (including new ceiling mounted projector + improved lighting), **DELETED**.

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2. Current installations with **DELETED**

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3. Current installations with **DELETED**

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Options

One extra location **including** i2i

- i2i
- control system
- table
- video codec

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One extra location **excluding** i2i

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- 2 projectors (one video conference, one PC/data)
- control system
- table
- video codec

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Pro's

i2i
- There really is no substitute for eye contact in meetings.
- For video conferences to be a success and continue to be used instead of not being used eye contact is needed.

Non i2i
- Reduced cost
- Easier to install
- Easier to move to another room/location

MCU
- Vital part in ease of use
- High quality video and sound in multipoint-conferences i.e. with more than 2 participants
- More than 4 participating locations can be easily connected at the same time
- ISDN connections i.e. the ability to talk to video conference systems only connected to ISDN.

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- ▪ Many video conference systems **DELETED**
- A need for video conferences with parties (customers etc) outside**DELETED** using ip is foreseen. IP based video conference traffic (H.323 **DELETED**. The MCU can be used to pass **DELETED** secure way thus **DELETED**
- Only one MCU is needed to serve a maximum of 22 locations. If other functions and/or other locations are needed the MCU is configurable and expandable.

Con's

i2i
- Cost
- A space of 2 meters depth is needed for the mirrors, supporting framework and "false wall". Alternatively an adjacent room/space is needed where the i2i equipment can be installed.

Non i2i
- No eye contact
    - o "No eye contact" simply does not sufficiently convey the importance of eye contact in a meeting.

MCU
- Cost

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4 Calculation Results

The calculations shows that depending on which alternative you choose, you get a break even between 1 month to 7 months.

At the time of writing 2002-12-12 the latest forecast **DELETED** travel budget for 2002 is SEK **DELETED**.

DELETED travel budget for 2003 is SEK **DELETED**.

Benchmarking has given us a span of 50 % - 20 % of reduced travel costs. We believe 30 % to be realistic. This will give a cost reduction of 30 % of **DELETED** = **DELETED**/ year.

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5 Risk factors and sensitivity analysis

Lack of management support

It is vital that **DELETED** management clearly tell the organisation that video conference is to be used.

Installation of a "cheap/traditional" video conference system to cut costs

A system which is not used will be money down the drain...

(an example: There is a lot of "traditional" video conference systems all over **DELETED** not being used today... (Ease of use, presence and room adaptations are vital...).

VWoW rooms used for non video conference meetings

Easy access to VWoW is essential for success. The use of these rooms for video conferencing must, without exception, take priority.

Eavesdropping/business intelligence/espionage

Public, restricted and confidential information **DELETED**. Secret information must be **DELETED**.

VWoW currently **DELETED**.

6 Business Plan and effects on earnings

SEK **DELETED**has been budgeted for Video Ways of Working.

DELETED travel budget for 2003 is SEK **DELETED**

Benchmarking has given us a span of 50 % - 20 % of reduced travel costs. We believe 30 % to be realistic.

30 % * SEK **DELETED** = Cost reduction SEK **DELETED** / year

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7 Consequence analysis

Video Ways of Working enables a low travel budget. Without video conferencing more travel is necessary meaning higher travel costs.

A **DELETED** travel budget meaning **DELETED** travel also means that many needed meetings will not take place. This will have a negative impact on quality and efficiency of work and ultimately on **DELETED** profitability.

Video Ways of Working enables these meetings to take place and for efficient and high quality work to be done thus helping out with making **DELETED** profitable.

8 Follow-up

Activities to promote use of VWoW is suggested.

The use of VWoW should be followed up monthly.

The users views should be followed up every 3 months.

9 Recommendation

Recommendation select alternative 2

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Appendix 1

Description of existing system

Video Ways of Working-room **DELETED**

The current test installation in **DELETED** are full i2i-installations. The main parts being

- **i2i** - semi-transparent mirror with projector and camera placed behind the mirror enabling eye contact (teleprompter type system).
- **Ceiling mounted projector** projecting on to the walltalker film. This projector is connected to a room PC or a participants PC.
- An **easy to use control system** which from a user perspective enables call setup, camera control etc in a very easy and user friendly way.
  - o This control system is our invention which the suppliers have set up and programmed according to our i.e. **DELETED** specifications. It is what enables the ease of use which this test have verified is most important for a successful video conference installation.

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- **Room adaptions**
    - o **Table** adapted for video conferencing to give a feeling of being in the same room. This table is also equipped with electrical outlets, lan connections, microphones etc.
    - o **Walltalker** (white board and projection film)
    - o curtains, lighting etc
- **Video codec equipment**
    - o **DELETED** equipment used
- **IP connections** – the current system is connected to **DELETED**Note. Due to **DELETED** security policy, **DELETED**
- **Multi Point Conference Unit (MCU)** with the following main functions
    - o Important for ease of use
    - o More than 4 locations can easily be connected at the same time.
    - o High quality video and sound in multi point conferences
    - o ISDN connections i.e. the ability to talk to video conference systems only connected to ISDN.
    - o **DELETED**
    - o Firewall – IP based video conference traffic (H.323 is not normally allowed **DELETED**. The MCU can be used to pass video conference traffic **DELETED**.
        - ▪ This has not been a part of the test. The firewall functionality needs to be verified and an ok from **DELETED** is needed before enabling ip based H.323/video conference traffic through **DELETED**.
    - o Telephone/POTS connections
        - ▪ Enables telephone calls in to and out of the video conference systems. E.g. to sites not (yet?) equipped with video conference systems. This has been test repeatedly to good effect. (In fact the video conference system is a very, very good speaker phone though "overkill" if used only for teleconferences...).
    - o Only one MCU is needed to serve a maximum of 22 locations. If other functions and/or other locations are needed the MCU is configurable and expandable.

The installations in **DELETED** are fixed installations.

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Appendix 2

Information from the Test pilot

We have mainly used interviews to get feedback from the test users. In 5 cases a web based survey has also been used. We plan to continue using this survey to get feedback from the users.
(**DELETED**

In fact, of the groups/persons having used the system this is a universal comment insofar as they tell us that they will/want to use the system again.

Other "universal" comments have been

"Very easy to use"

"Provided a presence that you don't get by phone which enabled us to have a good meeting "

Other comments have been

"It should be easier to book/why do we need to book/I want to use the web to book"
"After 6 pm it's not possible to get the key to the room for an ad-hoc meeting"

When asking users how much time and money they have saved by using VWoW, we believe we see an effect of the travel restrictions.

We also believe we see an effect that VWoW enables meetings which otherwise would not have been possible as the answer we get is almost universally that they have not saved any time or money.

This is clearly not the case as the alternative would have been for the meeting not to take place at all or for them to have had to travel to the meeting.

When pointing this out almost everyone agree that this is a correct conclusion.

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Bookings – VWoW

Conference room

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Note: It turns out that at the start of this period the conference room was not locked. Several ad-hoc meetings, of which we have no records, took place.

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Appendix 3

Benchmarking of other video conference users

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Formal meetings in special rooms, which are used intensively. Estimated savings at least 20 % of travel costs.

DELETEDPersonal meeting (Marratech) concept tested in a large EU-project.
They were adamant that the travel cost reduction was 50 %.

Definitions

Note, this business proposal is for "Formal Meetings" only. A need for handling "Informal Meetings" as well as "Personal Meetings" is foreseen.

Formal meetings
Formal meetings are very much like the invited-to, planned meetings of today to start with, then again they are also like the managment meetings in the sense that the attendees often are based in different premises.

This concept needs equipment, which is simple to use, fail-safe and can be complemented with large whiteboard screens or similar.

The level of ambition should be reasonably high since these meetings will sometimes gather a great number of participants who must be able to work in efficient and convenient manner, have a feeling of presence and possibility of being truly interactive.

Informal Meetings
Informal meetings are more like the gatherings round the water-cooler (USA) or office teapot (UK), where the participants can pop in and out as they like. This could be an always on-line camera solution with demands on handling people coming and going and sitting in more separate and comfortable groups. Ease of use and integrity are key words for this solution.

Personal Meetings
Personal meetings are also called the virtual office, which consists of a number of working rooms, which you can enter after knocking on the door and being asked to enter. This concept stretches from simple point-to-point meetings to meetings with several attendees who all shall be able to see each other, share documents and desktop. This kind of meetings must be possible even from outside of ICN, which means that security and integrity will be in focus.