

BookIT ISMS®

Monitoring

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1. REFERENCES

[1] **BookIT ISMS[®] Architecture**

2. OVERVIEW

This document describes the BookIT ISMS[®] monitoring capabilities. The general architecture is described in reference [1].

3. COMPONENTS

Bookit ISMS[®] service is based on the patented Dynamic Dialogue Matrix (DDM) technology that provides with effective and reliable session management and authentication to connect mobile customers to enterprise business applications. The iSMS[®] system consists of the following components:

1. ISMS[®] Enterprise Server / Communication Server
2. ISMS[®] Service Center
3. ISMS[®] Service Gateway

The components and their relations are illustrated in Figure 1.

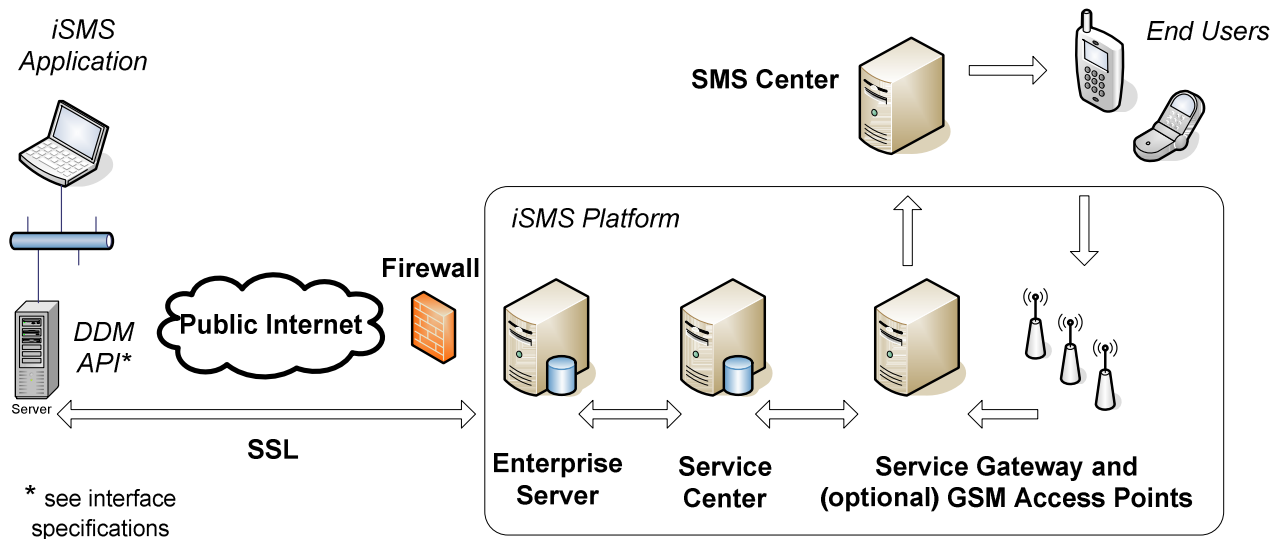


Figure 1. iSMS[®] Components

4. CURRENT MONITORING CAPABILITIES

4.1 NET-SNMP

The iSMS[®] system use NET-SNMP-package (Open Source) to provide the SNMP interface to query server and service related data. The standard capabilities are provided based on the NET-SNMP-package. The capabilities related to the iSMS[®] services are provided by defining external commands to perform the checks.

4.2 iSMS® specific monitoring

Currently there are scripts that can be run via snmp-get procedure used in checking the status of various iSMS® system components. The object identifiers and respective descriptions are presented in the tables below.

1) Enterprise Server

OID	Description
.1.3.6.1.4.1.2021.50	Tomcat log errors
.1.3.6.1.4.1.2021.60	ES database (ddmes) connection
.1.3.6.1.4.1.2021.70	http /ddmes/send
.1.3.6.1.4.1.2021.71	http /ddmes/receive
.1.3.6.1.4.1.2021.72	https /ddmes/send
.1.3.6.1.4.1.2021.73	https /ddmes/receive
.1.3.6.1.4.1.2021.80	ES -> SC http connection
.1.3.6.1.4.1.2021.100	ES-SC-SG-SC-ES-chain test

2) Service Center

OID	Description
.1.3.6.1.4.1.2021.50	Tomcat log errors
.1.3.6.1.4.1.2021.61	SC database (ddm) connection
.1.3.6.1.4.1.2021.80	http /ddm/send (ES -> SC)
.1.3.6.1.4.1.2021.81	http /kannel (SG -> SC)
.1.3.6.1.4.1.2021.82	https /ddm/send (ES -> SC)
.1.3.6.1.4.1.2021.94	send to SG
.1.3.6.1.4.1.2021.71	SC -> ES http connection

3) Service Gateway

OID	Description
.1.3.6.1.4.1.2021.90	inbound SMS-GW status
.1.3.6.1.4.1.2021.91	outbound SMS-GW status
.1.3.6.1.4.1.2021.92	inbound SMS-GW log
.1.3.6.1.4.1.2021.93	outbound SMS-GW log
.1.3.6.1.4.1.2021.94	http /cgi-bin/sendsms
.1.3.6.1.4.1.2021.81	SG -> SC http connection

The OID:s presented are set up in the installation phase and can be changed to meet customer specific needs.

4.3 Default MIB's

The default MIB's delivered with NET-SNMP distribution are listed below [Copyright (C) The Internet Society (2002-2005)].

MIB	RFC	Description
SNMPv2-TM	rfc3417	The MIB module for SNMP transport mappings.
SNMPv2-MIB	rfc3418	The MIB module for SNMP entities.
SNMP-FRAMEWORK-MIB	rfc3411	The SNMP Management Architecture MIB
SNMP-MPD-MIB	rfc3412	The MIB for Message Processing and Dispatching
SNMP-TARGET-MIB	rfc3413	This MIB module defines MIB objects which provide mechanisms [®] to remotely configure the parameters used by an SNMP entity for the generation of SNMP messages.
SNMP-NOTIFICATION-MIB	rfc3413	This MIB module defines MIB objects which provide mechanisms [®] to remotely configure the parameters used by an SNMP entity for the generation of notifications.
SNMP-PROXY-MIB	rfc3413	This MIB module defines MIB objects which provide mechanisms [®] to remotely configure the parameters used by a proxy forwarding application.
SNMP-USER-BASED-SM-MIB	rfc3414	The management information definitions for the SNMP User-based Security Model.
SNMP-VIEW-BASED-ACM-MIB	rfc3415	The management information definitions for the View-based Access Control Model for SNMP.
SNMP-COMMUNITY-MIB	rfc2576	This MIB module defines objects to help support coexistence between SNMPv1, SNMPv2c, and SNMPv3.
TRANSPORT-ADDRESS-	rfc3419	This MIB module provides commonly used transport address definitions.

MIB		
IF-MIB	rfc2863	The MIB module to describe generic objects for network interface sub-layers.
IF-INVERTED-STACK-MIB	rfc2864	The MIB module which provides the Inverted Stack Table for interface sub-layers.
EtherLike-MIB	rfc3635	The MIB module to describe generic objects for ethernet-like network interfaces.
IP-MIB	rfc2011	The MIB module for managing IP and ICMP implementations, but excluding their management of IP routes.
IP-FORWARD-MIB	rfc2096	The MIB module for the management of CIDR multipath IP Routes.
IANA-RTPROTO-MIB		This MIB module defines the IANAipRouteProtocol and IANAipMRouteProtocol textual conventions for use in MIBs which need to identify unicast or multicast routing mechanisms.
TCP-MIB	rfc4022	The MIB module for managing TCP implementations.
UDP-MIB	rfc4113	The MIB module for managing UDP implementations.
INET-ADDRESS-MIB	rfc4001	This MIB module defines textual conventions for representing Internet addresses. An Internet address can be an IPv4 address, an IPv6 address, or a DNS domain name. This module also defines textual conventions for Internet port numbers, autonomous system numbers, and the length of an Internet address prefix.
HCNUM-TC	rfc2856	A MIB module containing textual conventions for high capacity data types. This module addresses an immediate need for data types not directly supported in the SMIV2. This short-term solution is meant to be deprecated as a long-term solution is deployed.
HOST-RESOURCES-MIB	rfc2790	This MIB is for use in managing host systems.
HOST-RESOURCES-TYPES	rfc2790	This MIB module registers type definitions for storage types, device types, and file system types.
RMON-MIB	rfc2819	Remote network monitoring devices, often called monitors or probes, are instruments that exist for the purpose of managing a network. This MIB defines objects for managing remote network monitoring devices.
IPV6-MIB	rfc2465	The MIB module for entities implementing the IPv6 protocol.
IPV6-ICMP-MIB	rfc2466	The MIB module for entities implementing the ICMPv6.
IPV6-TCP-MIB	rfc2452	The MIB module for entities implementing TCP over IPv6.
IPV6-UDP-MIB	rfc2454	The MIB module for entities implementing UDP over IPv6.
DISMAN-EVENT-MIB	rfc2981	The MIB module for defining event triggers and actions for network management purposes.
DISMAN-SCRIPT-MIB	rfc3165	This MIB module defines a set of objects that allow to delegate management scripts to distributed managers.

DISMAN-SCHEDULE-MIB	rfc3231	This MIB module defines a MIB which provides mechanisms [®] to schedule SNMP set operations periodically or at specific points in time.
NOTIFICATION-LOG-MIB	rfc3014	The MIB module for logging SNMP Notifications, that is, Traps and Informs.
SNMP-USM-AES-MIB	rfc3826	Definitions of Object Identities needed for the use of AES by SNMP's User-based Security Model.
SNMP-USM-DH-OBJECTS-MIB	rfc2786	The management information definitions for providing forward secrecy for key changes for the usmUserTable, and for providing a method for 'kickstarting' access to the agent via a Diffie-Helman key agreement.
AGENTX-MIB	rfc2742	This is the MIB module for the SNMP Agent Extensibility Protocol (AgentX). This MIB module will be implemented by the master agent.
IANAifType-MIB		This MIB module defines the IANAifType Textual Convention, and thus the enumerated values of the ifType object defined in MIB-II's ifTable.
IANA-LANGUAGE-MIB		The MIB module registers object identifier values for well-known programming and scripting languages.
IANA-ADDRESS-FAMILY-NUMBERS-MIB		The MIB module defines the AddressFamilyNumbers textual convention.
NET-SNMP-TC		Textual conventions and enumerations for the Net-SNMP project
NET-SNMP-MIB		Top-level infrastructure of the Net-SNMP project enterprise MIB tree
NET-SNMP-AGENT-MIB		Defines control and monitoring structures for the Net-SNMP agent.
NET-SNMP-EXAMPLES-MIB		Example MIB objects for agent module example implementations
NET-SNMP-EXTEND-MIB		Defines a framework for scripted extensions for the Net-SNMP agent.
UCD-SNMP-MIB		Added ssCpuRawSoftIRQ for Linux (2.6) and forgotten raw swap counters.
UCD-DEMO-MIB		The UCD-SNMP Demonstration MIB.
UCD-IPFWACC-MIB		This module defines MIB components for reading information from the accounting rules IP Firewall.
UCD-DLMOD-MIB		This file defines the MIB objects for dynamic loadable MIB modules.
UCD-DISKIO-MIB		This MIB module defines objects for disk IO statistics.

The configuration and customisation will be made in the installation phase based on the customer requirements.