



White Paper Winnow SaaS Model

Benefits, safeguards and comparison vis-à-vis the on-premise model

Winnow SaaS model

Axslogic offers Winnow on a SaaS model that provides Winnow customers significant benefits at very limited upfront costs. In the SaaS model, Axslogic will host and manage Winnow at a secure and reliable External Data Center.

Customers access Winnow SaaS by purchasing Access Logins for the number of users required. There are no restrictions on the number of accounts, barring a minimum number of logins that must be purchased initially.

The salient features of the Winnow SaaS offering is mentioned in Table 1 below :

Table 1: Salient features of Winnow SaaS offering

Sr#	Feature	Benefit to Customer
1	Software Infrastructure	No cost to Customer.
2	Hardware Infrastructure	No cost to Customer.
3	Product Upgrades	YES Provided free of cost
4	Maintenance & On-going Support	Provided free of cost
6	Minimum number of users	5
7	Initial Implementation cost	One time account setup fee to cover data mapping and data feed assistance costs
8	User training	One onsite training session provided free of cost.
9	Go Live	7 days *

** Post data feed being made available*

a. Technology requirements

WINNOW™ is offered on the industry-proven, high-quality and popular IBM technology stack. Table 2 below describes the complete technology ecosystem required to run Winnow. These requirements are significantly reduced from the customer’s perspective in the case of a SaaS model since the platform infrastructure is largely provided by Axslogic.

In the SaaS model, all that is required at the Customer’s premise are desktops and/or mobile/tablet devices that can run supported browser versions and that have the ability to connect to internet securely.

Table 2: Technology requirements for Winnow

Component	IBM	Required at customer premises?	
		SaaS	On-premise
Reporting Tool	IBM Cognos 10.2.0 and above	No	Yes
ETL Tool	IBM Infosphere DataStage 8.5 Informatica SSIS IBM Infosphere SQW	No	Yes
Database	IBM DB2 9.7 SQL Server 2008 and above	No	Yes
Application Server	Tomcat IBM Websphere 7.0	No	Yes
Web Server	<ul style="list-style-type: none"> ▪ Apache HTTP Server 2.0, 2.2 ▪ Microsoft Internet Information Services 7.0, 7.5 ▪ IBM HTTP Server 6.0, 6.1, 	No	Yes

	7.0, 8.0, 8.5		
Web Browser (Desktop and Mobile)	Desktop <ul style="list-style-type: none"> ▪ Safari 5+ ▪ Google Chrome 21 ▪ Microsoft Internet Explorer 7+ ▪ Mozilla Firefox ESR 17+ Mobile <ul style="list-style-type: none"> ▪ Android default browser 3.0 4.0 ▪ Safari on iOS 5+ ▪ Blackberry Playbook Browser 1.0 2.0 	Yes	Yes
Mobile Apps	IBM Cognos Mobile App (Android 4.0+, iOS 5.1+)	Yes	Yes
LDAP Server	<ul style="list-style-type: none"> ▪ All LDAP Servers that support the LDAP V3 Specification ▪ Microsoft Active Directory 6.1 	No	Yes
File Format	CSV, Comma separated, tab separated, bar separated	Yes	Yes
Operating System	Windows 2008 R2	No	Yes

b. Network Bandwidth requirements

Bandwidth requirements and data transfer volumes will vary based on concurrent usage (number of users accessing Winnow at the same time) and total usage (total number of reports browsed in a day).

A sample indicative scenario is given below:

Usage figures

Active users	15
Hours of usage per user	8
Reports viewed per day per active user	10

Port Bandwidth	2 Mbps
Data Transfer per day	App 50 – 60 MB per day

Bandwidth and Data Transfer requirements

c. Handling Data Security

Winnow SaaS platform is hosted in a secure Tier III or above Data Center that offers very high level of uptime (99.982%) with multiple telecom peers, 100% redundant capacity and compliance to PCI DSS and ISO 27001:2013 standards.

Winnow SaaS is implemented using world-class platforms from IBM and Oracle, and use LDAP / Active Directory based authentication to ensure complete safeguard of customer data.

Described below are some of the key features of the security setup in the SaaS deployment scenario.

Physical access to servers and storage systems housing customer data

Winnow SaaS platform is hosted in secure data centers that are compliant with ISO 27001 and PCI DSS. This provides an environment where physical access to the server rack is completely controlled and access rules are established in synch with the Data Center policy and Axslogic/Customer needs.

These Physical access control restrictions extend not only to the server halls, but to all other areas where an individual can gain access to a terminal that can be used to access Winnow servers

Network access to servers and storage systems housing customer data

Network access to Winnow servers are protected using Firewalls at the perimeter, and two-factor authentication at the Operating System level. All server access logs are reviewed daily for any suspicious activities.

Browser based access to Winnow Portal

All Winnow features require the use of SSL via https. As a result, no data is ever sent in the clear. All user access to Winnow is protected using strong authentication policies implemented using an Active Directory server. In case of special requirements, site-to-site VPN access can be provided.

Protecting Data during transfer

At periodic intervals (daily, monthly etc.), fresh data feeds are sent from client locations to Winnow SaaS platform. Axslogic provides a data encryption tool that encrypts the data with an asymmetric-symmetric key mechanism that is specific to each client. This data is then uploaded to Winnow's SFTP / FTPS server that is monitored by the ETL agent, which decrypts the file, loads the data, re-encrypts and archives the data for a limited period (archiving is done only in case the data needs to be reloaded – archives are stored as per retention agreed with the clients).

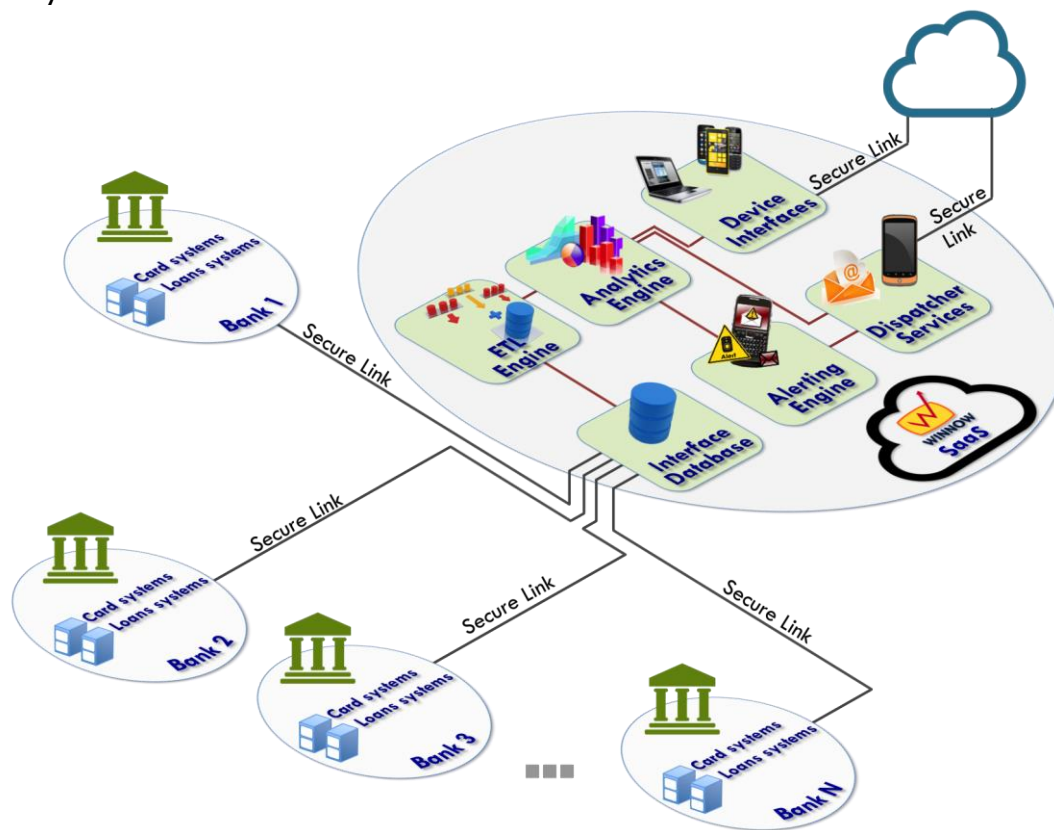
d. Handling Disaster Recovery

Axslogic provides all its customers of Winnow SaaS model with DR facilities. The facility is located in a separate physical center, adequately distanced from the primary facility.

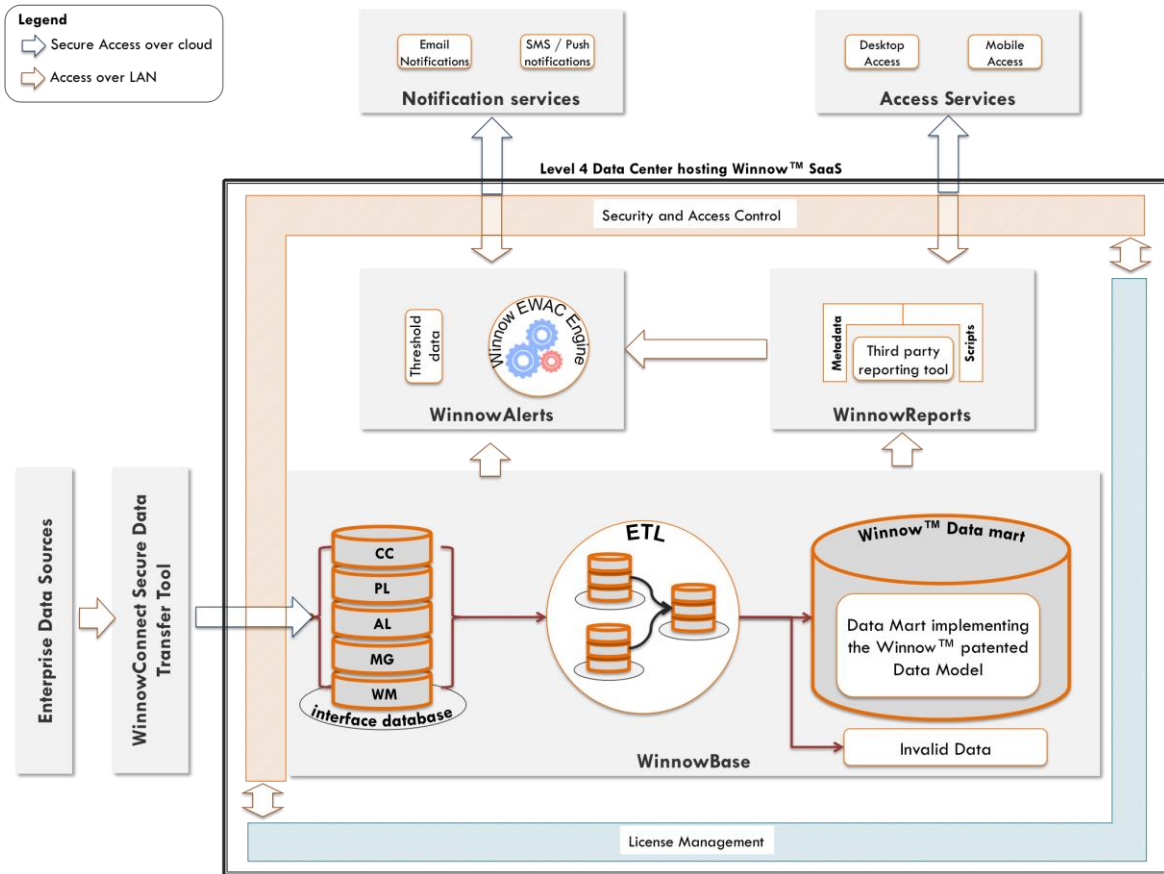
Customers are given a separate network IP address to use in case the primary center is down. In a disaster scenario, service levels will be reduced as per the SLA.

e. Architecture

Winnow SaaS is architected to be accessed using well defined and secure mechanisms that protect all data-in-flight. Subscribing banks are china-walled from each other using strong multi-tenant controls. Well-defined access controls ensure that specific reports and alerts are accessible to only those who have been authorized to do so.



Functionally, WINNOWN™ consists of discrete components that are N-tier capable (see diagram below), allowing for a distributed deployment across multiple servers for easy scale up, yet mesh tightly to allow secure access controls to be reliably deployed.



f. Deployment efforts

The figure below provides an indicative resource (People and Time) requirement for deploying Winnow in the SaaS model. Efforts are primarily required for extracting and verifying data from the source systems. Loading and configuration is done by Axslogic teams, and post 1 or 2 days of iteration to identify and resolve data issues, requires 6–7 days of efforts to load between 36 months of data.

	Data mapping (CC, ~200 items)	Data Loading	Test and go live
Customer IT 1 resource, Total 2-3 resource days	1 resource, total 10 days <ul style="list-style-type: none"> ○ Identify source data fields corresponding to items in data dictionary 	No resources required	No resources required
Customer Business 1 resource, Total 8 resource days	1 resource, total 10 days <ul style="list-style-type: none"> ○ Clarify definitions, assist disambiguation in case of multiple sources 	No resources required	1 resource, total 4-5 days <ul style="list-style-type: none"> ○ Reconcile report data ○ Verify alert triggering ○ Test with changed thresholds.
Axslogic 1 resources, Total 15-20 resource days	1 resource, total 10 days <ul style="list-style-type: none"> ○ Clarify definitions, explain use by extrapolating to end output 	2 resources, 6-7 days <ul style="list-style-type: none"> ○ Load data - Iterate till data issues are resolved ○ Pre-release testing 	2 resources, 3-4 days <ul style="list-style-type: none"> ○ User training ○ Acceptance test support

Winnow On Premise model

Winnow can also be deployed at Customer’s premises – should it be required. Described below are indicative requirements of hardware and network infrastructure in case of onsite deployment.

Besides this, Software infrastructure, as indicated in the table provided earlier, would also be required.

a. Indicative production infrastructure requirements

The hardware requirements will vary based on usage pattern and volume of data. Given below are estimated hardware requirements for a sample end–state scenario for an organization where 15 users are using Winnow Credit Card and Personal Loan modules.

It is important to note that this sizing is based on the provided values and assumptions, and Axslogic recommends that the initial deployment be done on a single server environment that is expanded as users are added. Axslogic will review the performance and load with the Customer on a monthly basis and recommend additional hardware as required.

Sizing Assumptions

Active users	15
Hours of usage per user	8
Reports viewed per day per active user	10
Monthly portfolio history	3 years
Daily acquisition history	12 months
Daily portfolio history	1 month
Credit Card acquisitions / day	15,000
Personal Loan acquisitions / day	30,000
Credit Card Portfolio	400000
Personal Loan Portfolio	200000

Estimated Server Sizing – (based on sizing assumptions)

Number of servers	2
Processors	Server1: (1 * 8 core CPU) Server2: (1 * 8 core CPU)
Total RAM	Server1: 48 GB Server2: 48 GB
Total Hard-disk space ()	Server1: 2 TB RAID 10 Server2: 4 TB RAID 10

Network Sizing

Port Bandwidth	2 Mbps
Data Transfer per day	App 50 – 60 MB per day

b. Indicative Test and DR infrastructure requirements

Axslogic recommends that Customer deploy one test server – to be preferably located at the designated DR location, so that it can also be used as a DR Server.

Server Sizing

Number of servers	1
Processors	(2 * 8 core CPU)
Total RAM	64 GB
Total Hard-disk space ()	2 TB RAID 10

Network Sizing

Port Bandwidth	512 Kbps
Data Transfer per day	Between 10–15 MB per day

c. DR Approach

Provisioning for DR requirements will depend on the type of disaster (Localized Failures / Site Failure) as well as Service Levels that have been agreed upon.

Localized Failures (Hardware failures / network failures) should be handled by leveraging existing support infrastructure within the client's IT setup.

In our experience, in most organizations, an analytics platform is not categorized in the same level of criticality as transactional systems like Transaction Authorization / ATM Switches are. Typical Recovery Time Objectives are 24 hours plus. Hence, for Site Failures, Axslogic recommends using cold spares that are available within the Customer's Data Center.

Having an appropriate DR server will enable the Customer to continue accessing Winnow in case of a site failure. Service levels will be degraded – with number of concurrent users restricted.

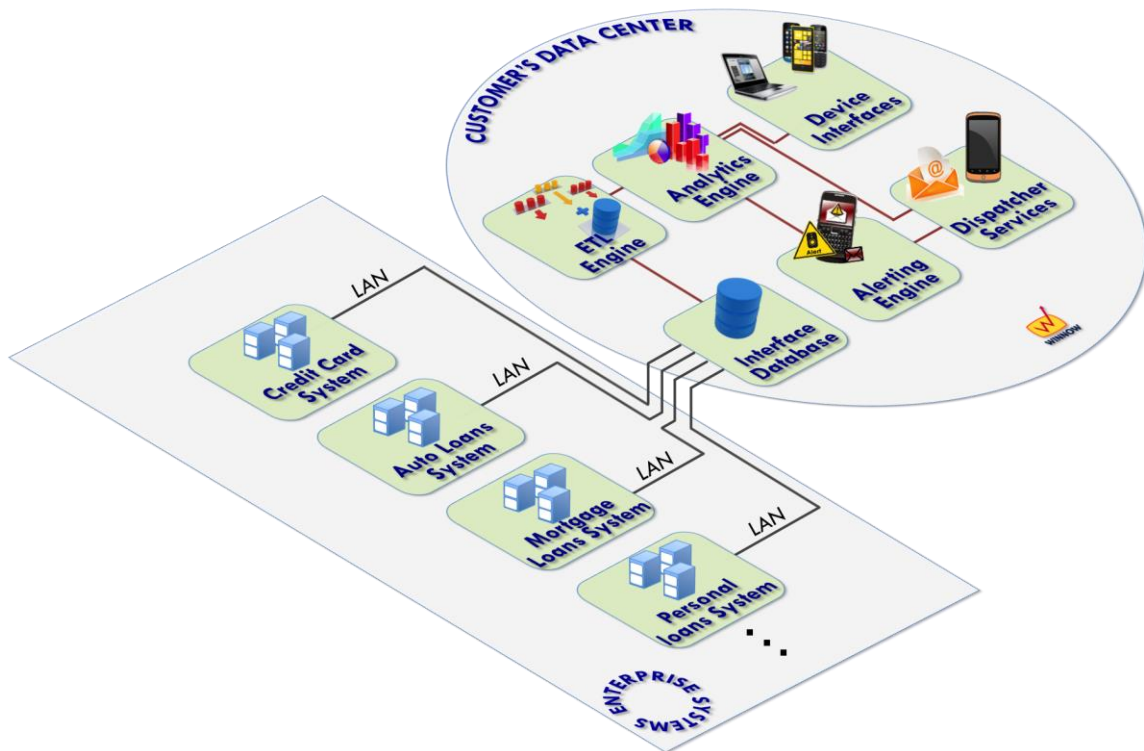
The sizing will have to be fine-tuned every three to six months based on the user base.

The Customer's IT function will need to provision the requisite infrastructure to accomplish the network reconfiguration to redirect clients from the regular Data Center to the DR Data Center.

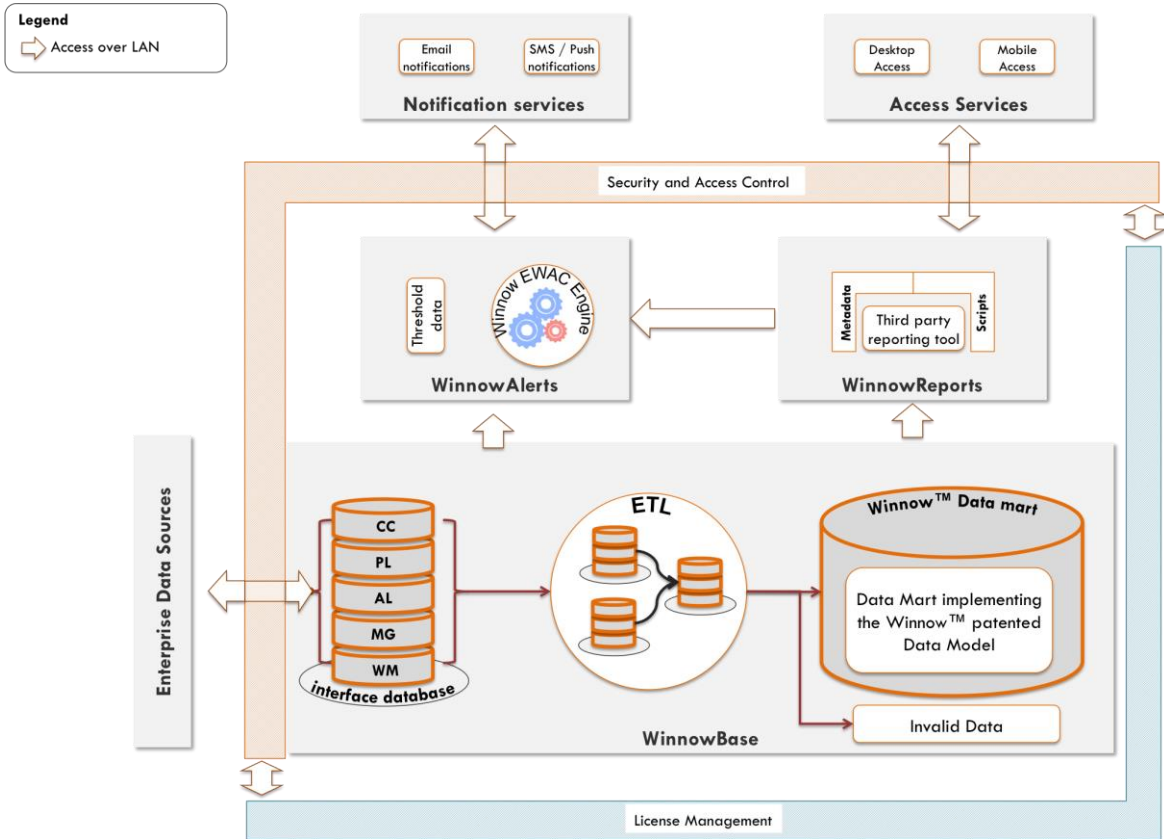
d. Architecture

WINNOW™ has been architected in a flexible and modular and multi-tenantable pattern – and hence is also capable of being deployed as an application that is meshed with the enterprise network (See Figure below). The standard deployment of WINNOW™ is as a standalone application that accepts data feeds from “source” systems of clients (like credit cards, Loans, Core banking etc.).

Advanced installations integrate WINNOW™ with directory services like Active Directory, ride on existing database systems and reporting tools.



Functionally, WINNOW™ consists of discrete components that are N-tier capable (see diagram below), allowing for a distributed deployment across multiple servers within a data center, as well as distributed access using mobile devices and desktops.



e. Deployment Efforts

The figure below provides an indicative resource (People and Time) requirement for deploying Winnow. The deployment effort for on-premise deployment requires a substantially higher involvement of the Customer's IT teams. Axslogic teams too require additional time to setup, configure and tune the environment for Winnow operations.

	Data mapping (CC, ~200 items)	Data Loading	Test and go live
Customer IT 1 resource, Total 6.5 resource days	1 resource, total 10 days <ul style="list-style-type: none"> ○ Identify source data fields corresponding to items in data dictionary 	1 resource, total 10 days <ul style="list-style-type: none"> ○ Provide existing data extract and validate ○ Assist in environment setup 	1 resource, total 10 days <ul style="list-style-type: none"> ○ Test incremental loading ○ Test Alert communication
Customer Business 1 resource, Total 8 resource days	1 resource, total 10 days <ul style="list-style-type: none"> ○ Clarify definitions, assist disambiguation in case of multiple sources 	No resources required	1 resource, total 10 days <ul style="list-style-type: none"> ○ Reconcile report data ○ Verify alert triggering ○ Test with changed thresholds.
Axslogic 3 resources, Total 37 resource days	1 resource, total 10 days <ul style="list-style-type: none"> ○ Clarify definitions, explain use by extrapolating to end output 	2 resources, 10-15 days <ul style="list-style-type: none"> ○ Setup Winnow EWAC ○ Customize ETL and test ○ Iterate till successful load ○ Pre-release testing 	2 resources, 10 days <ul style="list-style-type: none"> ○ User training ○ User configuration ○ Email,SMS configuration ○ Go-live procedures