



Tech Architecture

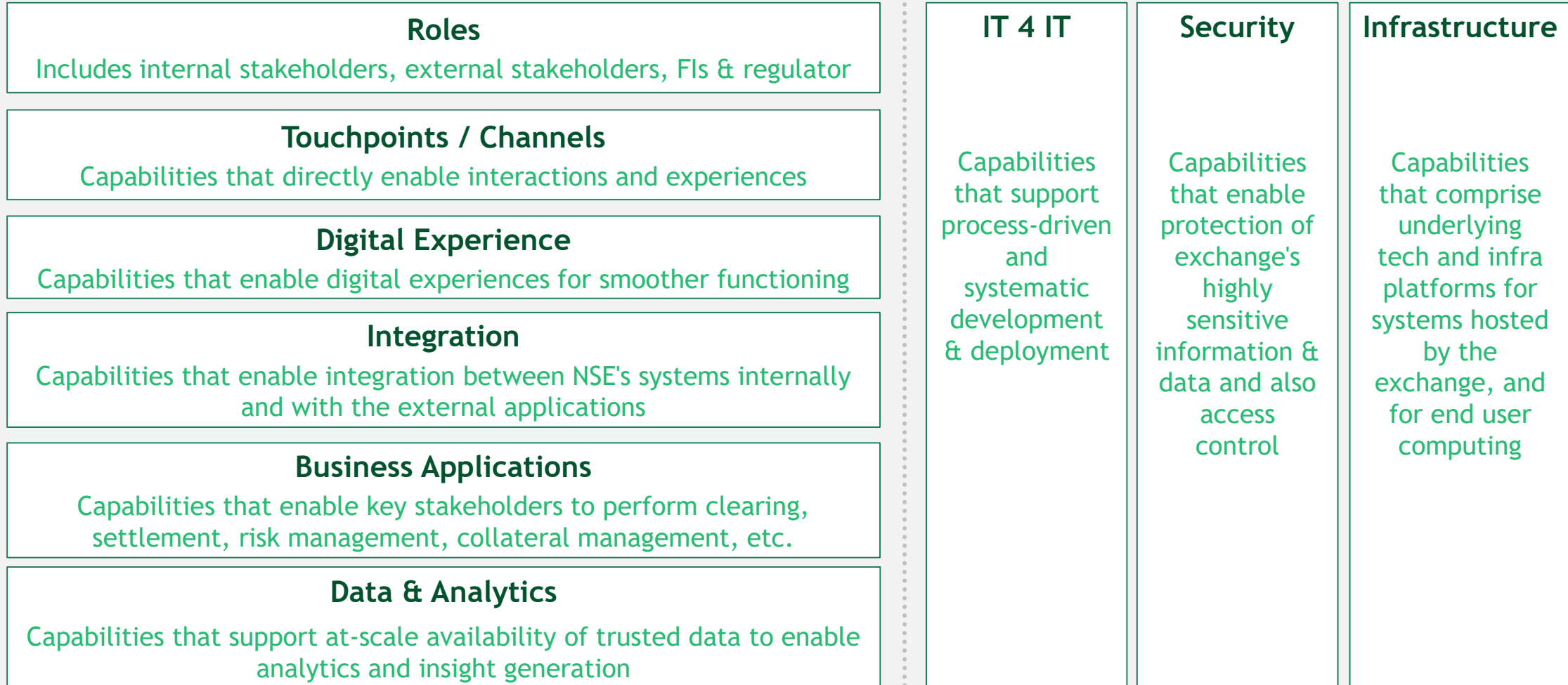
Discussion Document

JUNE 2020



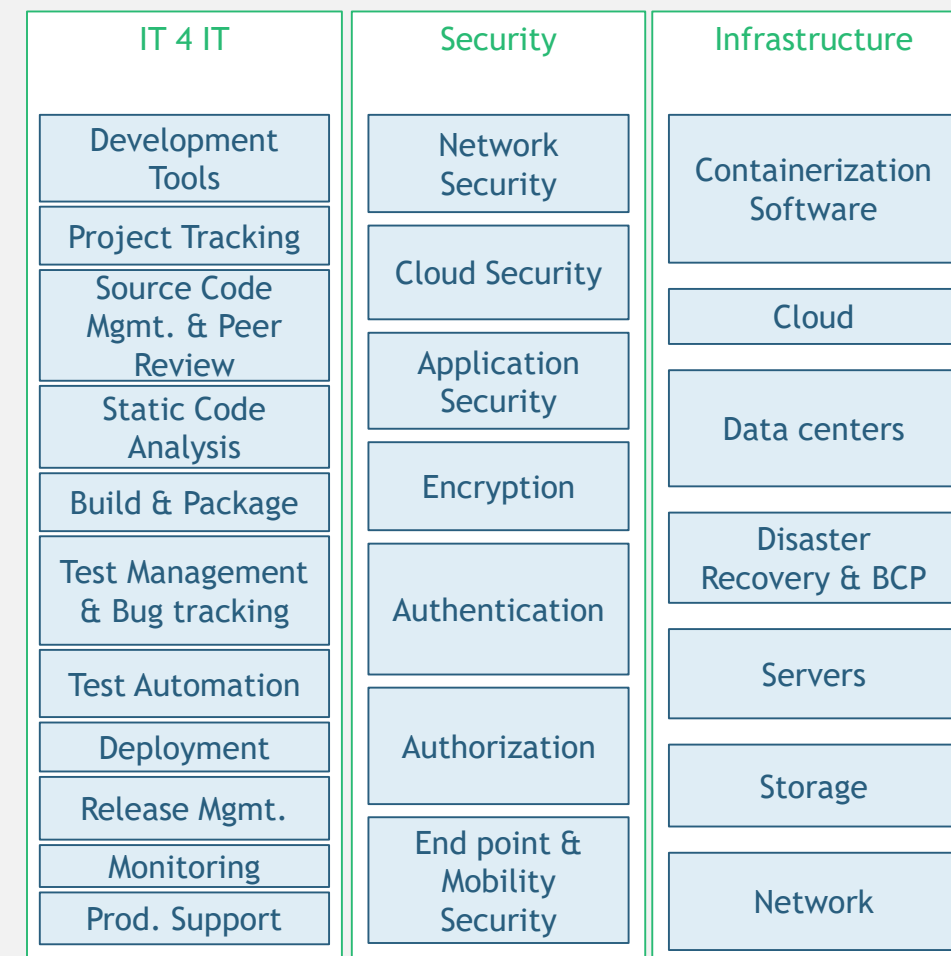
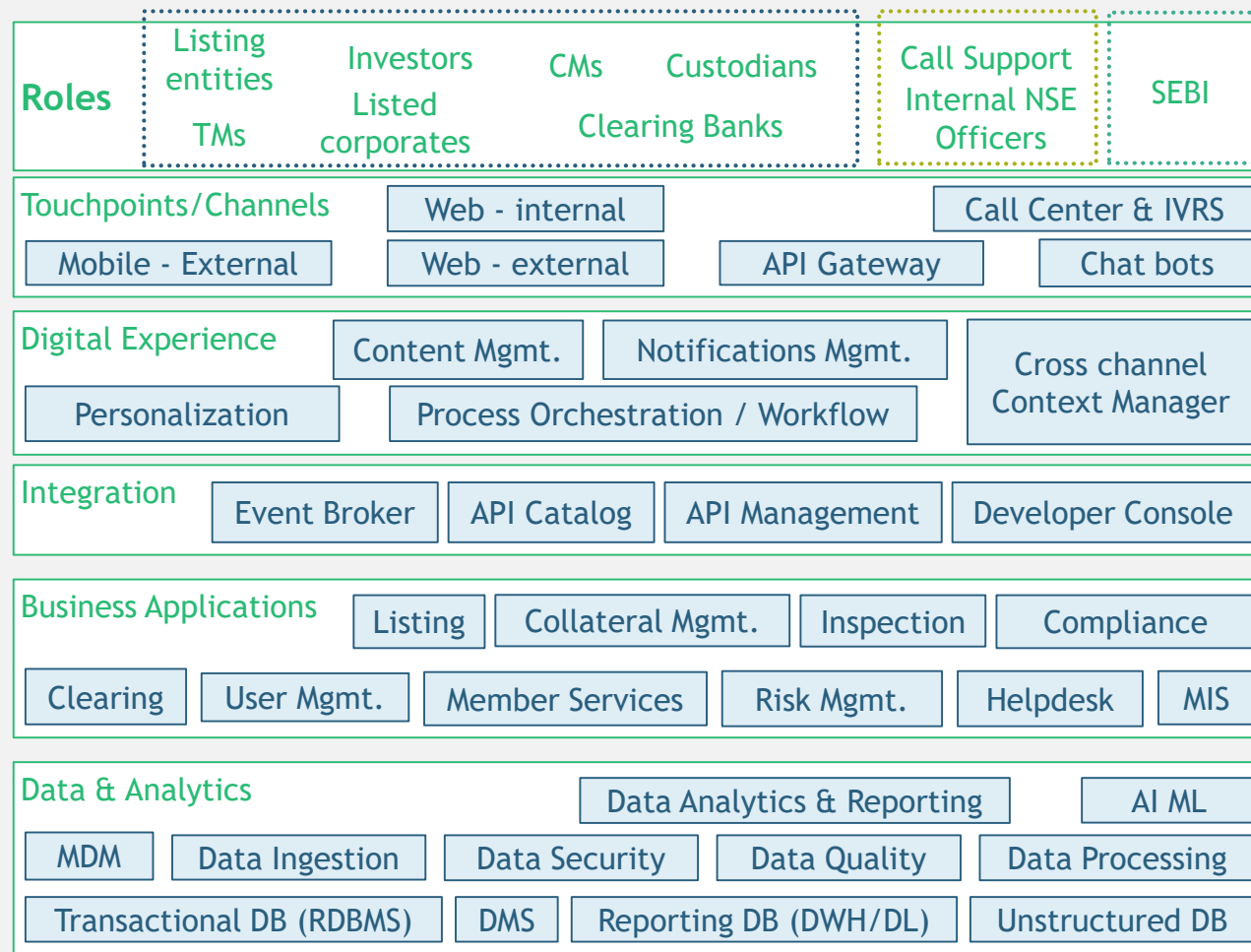


NSE Target Architecture | Should aspire cutting-edge IT capabilities across key architectural layers





NSE Target Architecture | IT Capabilities Map



Internal Stakeholders

External Stakeholders

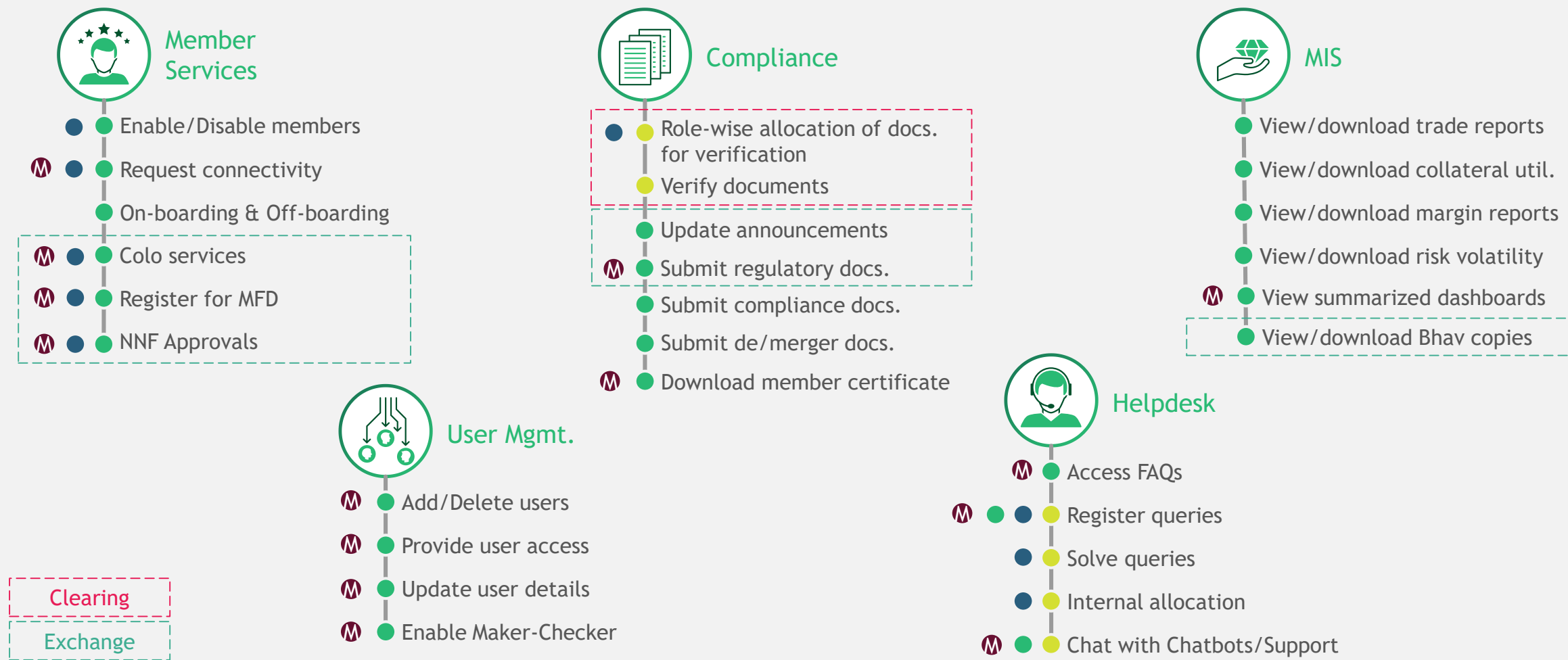
Regulator



Many functionalities are common across Clearing & Exchange

Functions

Initial View*



● External app. ● Internal app. ● Case Management Tool ● Enabled on Mobile

* - Will be refined further with customer journey re-imagination



Distinct functionalities for Clearing & Exchange platforms

Functions

Initial View*

Clearing



Clearing

- Approve/Confirm trades
 - Pay-in Funds & Securities
 - Check statuses of pay-in & out
 - Set auto-approval limits
 - Transfer Obligation
 - Enforce penalties
 - Modify orders
 - Modify CP codes
 - Allocate OTRs
- Moved from Exchange



Risk Mgmt.

- Check real-time margins
- Set TM-wise limits
- Set customized triggers
- Monitor volatility & other risks



Collateral Mgmt.

- Add/Delete collateral
- Allocate collateral
- Early Pay-in
- Monitor collateral levels

Exchange



Listing

- Registration & submit documents
- Submit & track application
- Pay various charges and fees
- Verify documents & application
- Approve application



Inspection

- Submit inspection docs.
- Create, schedule & fill cases
- Generate documents
- Send reports & findings to SEBI



Investor Grievance

- Access FAQs
- Register queries
- Resolution
- SEBI reporting
- Chat with Chatbots/Support
- Claims settlement

Exchange functionalities to be delivered using 2 web apps & 1 mobile app

External WEB App - Exchange

Listing	Inspection	Investor Grievance	Member Services	User Management	Compliance	Helpdesk	MIS & Reporting
<ul style="list-style-type: none"> Registration Submit Docs ● Track App. Fee payment Submit App. 	<ul style="list-style-type: none"> Submit requested docs. Respond to clarifications 	<ul style="list-style-type: none"> Access FAQs ● Register complaints Chat Support 	<ul style="list-style-type: none"> ● Request Colo, MDF, etc. ● Enable/Disable ● Request connectivity 	<ul style="list-style-type: none"> Add/Delete Users Access control Maker/Checker Update details 	<ul style="list-style-type: none"> Update announce-ments Submit docs. Download certificates 	<ul style="list-style-type: none"> Access FAQs ● Register complaints Chat with support 	<ul style="list-style-type: none"> View/download trade reports View/download Bhav copies
NEAPS	ENIT	NICE Plus	ENIT	ENIT	ENIT	Call/Email	Extranet

External MOBILE App - Exchange

Listing	Inspection	Investor Grievance	Member Services	User Management	Compliance	Helpdesk	MIS & Reporting
<ul style="list-style-type: none"> Track status Notifications 	<ul style="list-style-type: none"> Track status Notifications 	<ul style="list-style-type: none"> Access FAQs ● Register complaints Chat Support Notifications 	<ul style="list-style-type: none"> ● Request Colo, MDF, etc. ● Request connectivity ● Track statuses Notifications 	<ul style="list-style-type: none"> Add/Delete Users Access control Maker/Checker Update details 	<ul style="list-style-type: none"> Submit docs. Download certificates 	<ul style="list-style-type: none"> ● Internal allocation ● Resolve queries 	<ul style="list-style-type: none"> Dashboard Notifications

Internal WEB App - Exchange

Listing	Inspection	Investor Grievance	Member Services	User Management	Compliance	Helpdesk	MIS & Reporting
<ul style="list-style-type: none"> Verify docs. ● Approve Application 	<ul style="list-style-type: none"> Create cases Generate docs SEBI reporting 	<ul style="list-style-type: none"> ● Resolve queries SEBI reporting 	<ul style="list-style-type: none"> ● Updating request statuses 	<ul style="list-style-type: none"> Admin rights 	<ul style="list-style-type: none"> Verify docs 	<ul style="list-style-type: none"> ● Internal allocation ● Resolve queries 	<ul style="list-style-type: none"> View all files

● Powered by an underlying case management system

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Current systems to be replaced

Clearing functionalities to be delivered using 2 web apps & 1 mobile app

External WEB App - Clearing

Clearing <ul style="list-style-type: none"> • Approve/ confirm trades • Pay-in funds & securities • Set auto-approval • Modify CP codes • Allocate OTRs 	Collateral Mgmt. <ul style="list-style-type: none"> • Add/remove collateral • Allocation • Early pay-in 	Risk Mgmt. <ul style="list-style-type: none"> • Check real-time margins • Set TM-wise limits • Set customized triggers 	Member Services <ul style="list-style-type: none"> • Onboarding/ Off-boarding ● Enable/Disable ● Request connectivity 	User Management <ul style="list-style-type: none"> • Add/Delete Users • Access control • Maker/Checker • Update details 	Compliance <ul style="list-style-type: none"> • Update announcements • Submit docs. • Download certificates 	Helpdesk <ul style="list-style-type: none"> • Access FAQs ● Register complaints • Chat with support 	MIS & Reporting <ul style="list-style-type: none"> • View/download trade reports
NCMS	CIM	CIM				Call/Email	Extranet

External MOBILE App - Clearing

Clearing <ul style="list-style-type: none"> • Track status • Dashboard • Notifications 	Collateral Mgmt. <ul style="list-style-type: none"> • Dashboard • Notifications 	Risk Mgmt. <ul style="list-style-type: none"> • Check real-time margins • Dashboard • Notifications 	Member Services <ul style="list-style-type: none"> ● Request connectivity ● Track statuses • Notifications 	User Management <ul style="list-style-type: none"> • Add/Delete Users • Access control • Maker/Checker • Update details 	Compliance <ul style="list-style-type: none"> • Submit docs. • Download certificates 	Helpdesk <ul style="list-style-type: none"> ● Internal allocation ● Resolve queries 	MIS & Reporting <ul style="list-style-type: none"> • Dashboard • Notifications
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Internal WEB App - Clearing

Clearing <ul style="list-style-type: none"> • Transfer Obligation • Enforce penalties 	Collateral Mgmt. <ul style="list-style-type: none"> • Admin rights 	Risk Mgmt. <ul style="list-style-type: none"> • Admin rights 	Member Services <ul style="list-style-type: none"> ● Updating request statuses 	User Management <ul style="list-style-type: none"> • Admin rights 	Compliance <ul style="list-style-type: none"> • Verify docs 	Helpdesk <ul style="list-style-type: none"> ● Internal allocation ● Resolve queries 	MIS & Reporting <ul style="list-style-type: none"> • View all files
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