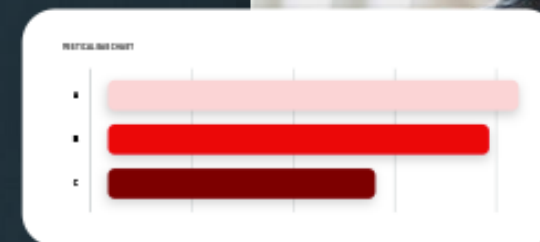
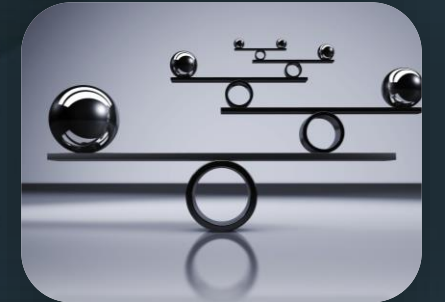


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Infoteam

Performance

2024.11



TECHNOLOGY

Performance

01

Infrastructure

02

**Performance
Guidelines**

03

Integration

04

**Benchmark –
Example**

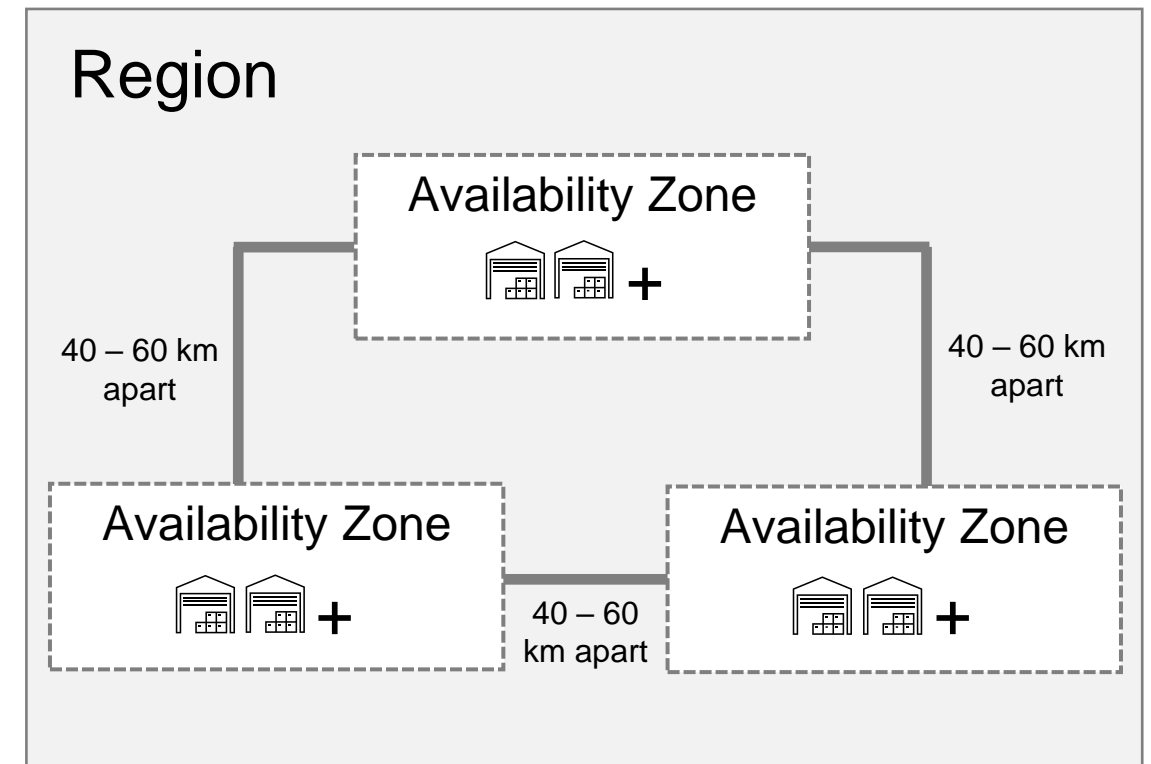
Performance

High performing infrastructure

AWS Global Infrastructure

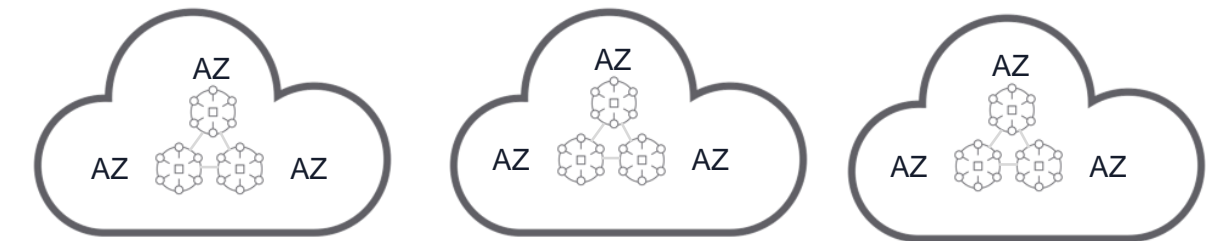
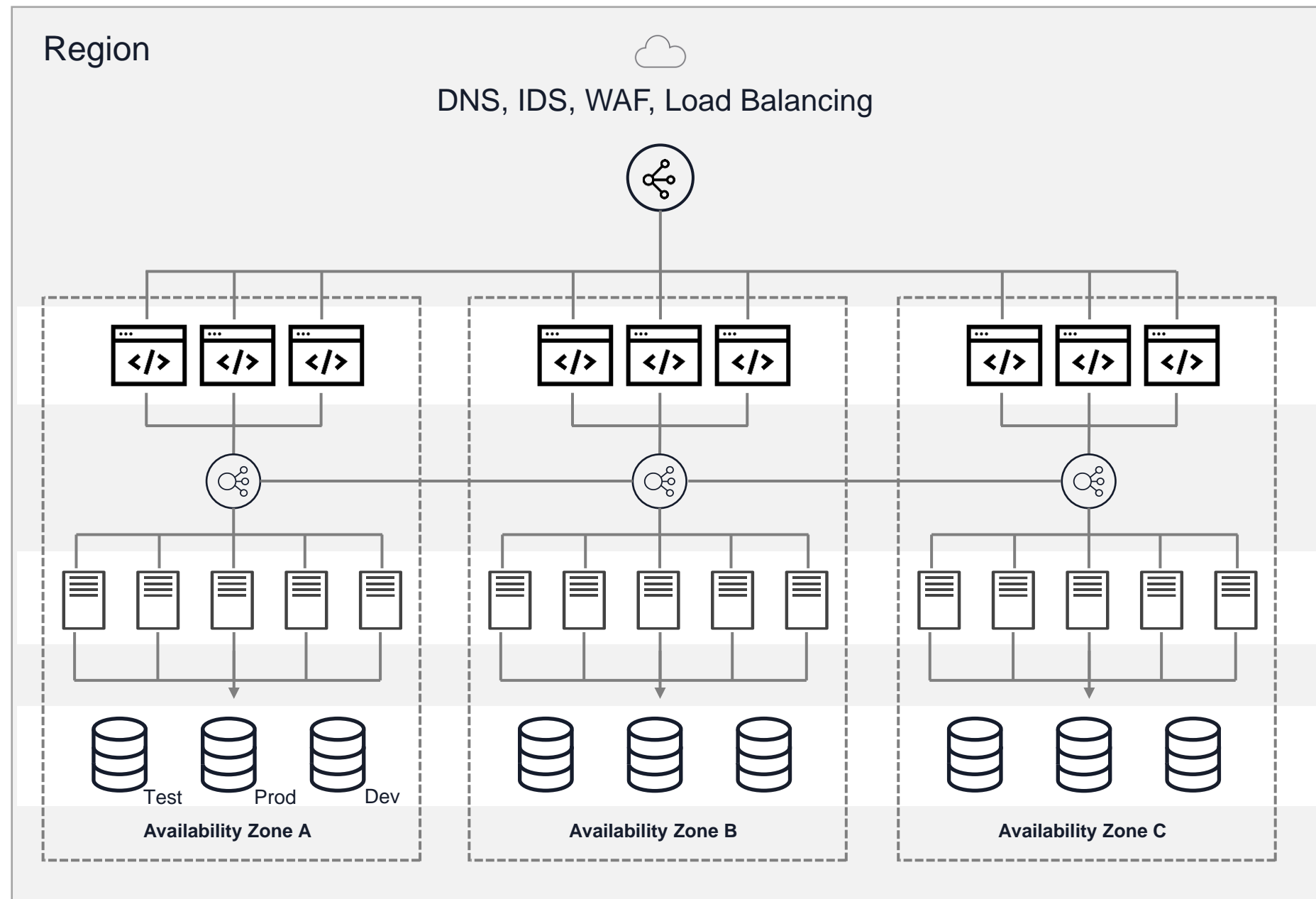
Regions & Availability Zones

- Each AWS Region consists of multiple, isolated, and physically separate AZ's (3) within a geographic area.
- Each AZ is a cluster of data centres (DCs), with each DC having independent power, cooling, and physical security connected by redundant, ultra-low-latency networks.
- AWS infrastructure Regions meet the highest levels of security, compliance, and data protection.



True Cloud Infrastructure

Scalability, Performance, Resiliency

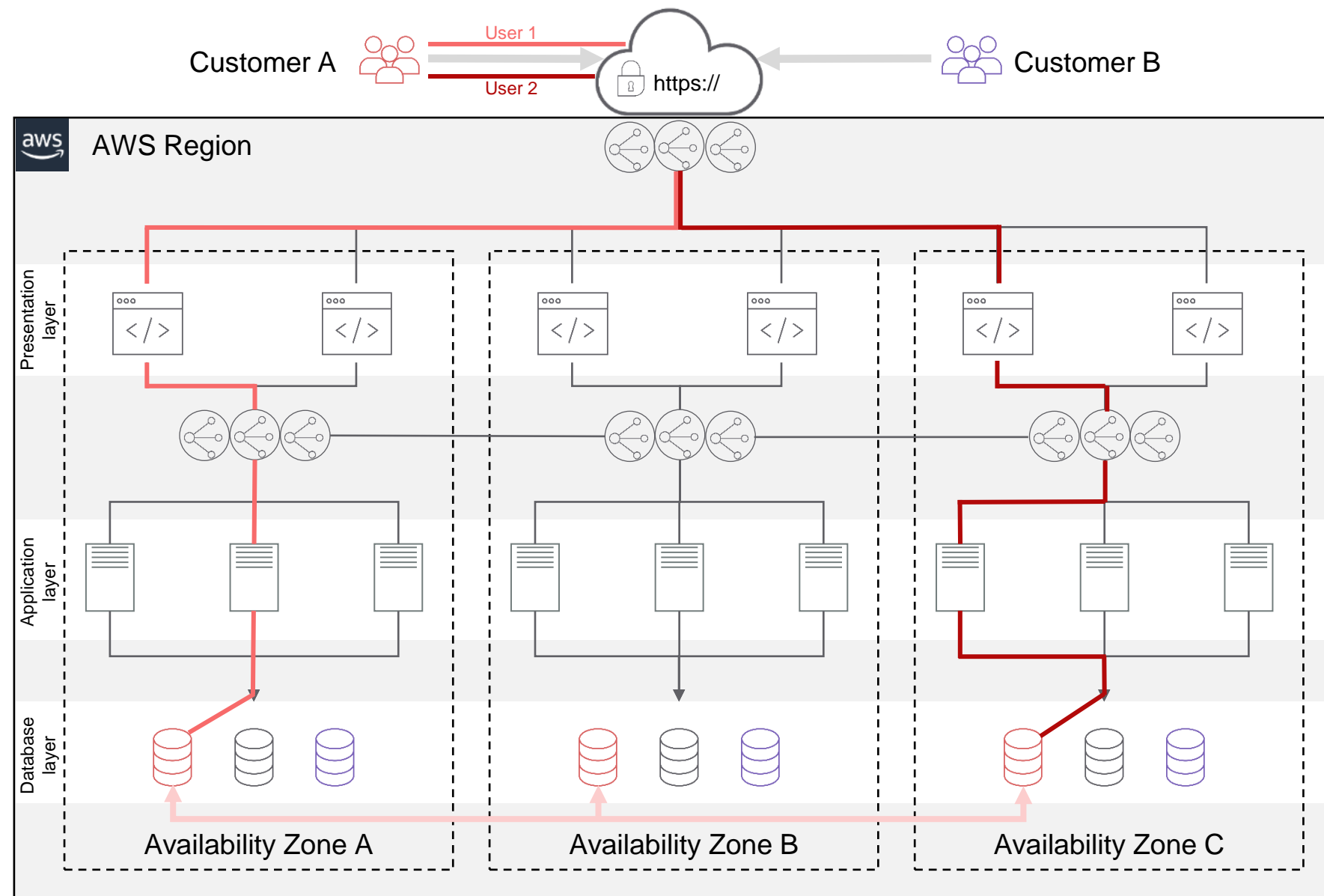


<p>Scalability</p>	<p>Performance</p>	<p>Resiliency</p>
---------------------------	---------------------------	--------------------------

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> • Dynamic resource allocation (auto-scale) • Application architecture supports fine-tuning | <ul style="list-style-type: none"> • Cross-domain expertise • Centuries of tuning experience • Feedback from deployment fuels improvement | <ul style="list-style-type: none"> • Resource redundancy • Deployment across data centers • Cluster DB • Automatic Backups for logs and DB |
|---|--|--|

Shared Infrastructure, Separate Database utilizing a **minimum** of 3 availability zones

SaaS model: Multi-tenant infrastructure



(Note: simplified configuration for illustrative purposes only)

Presentation and Application servers created in a Virtual Private Cloud (VPC) using auto-scaling groups that span multiple AZs

All customer environments (Tenants), including non-production, use the same infrastructure

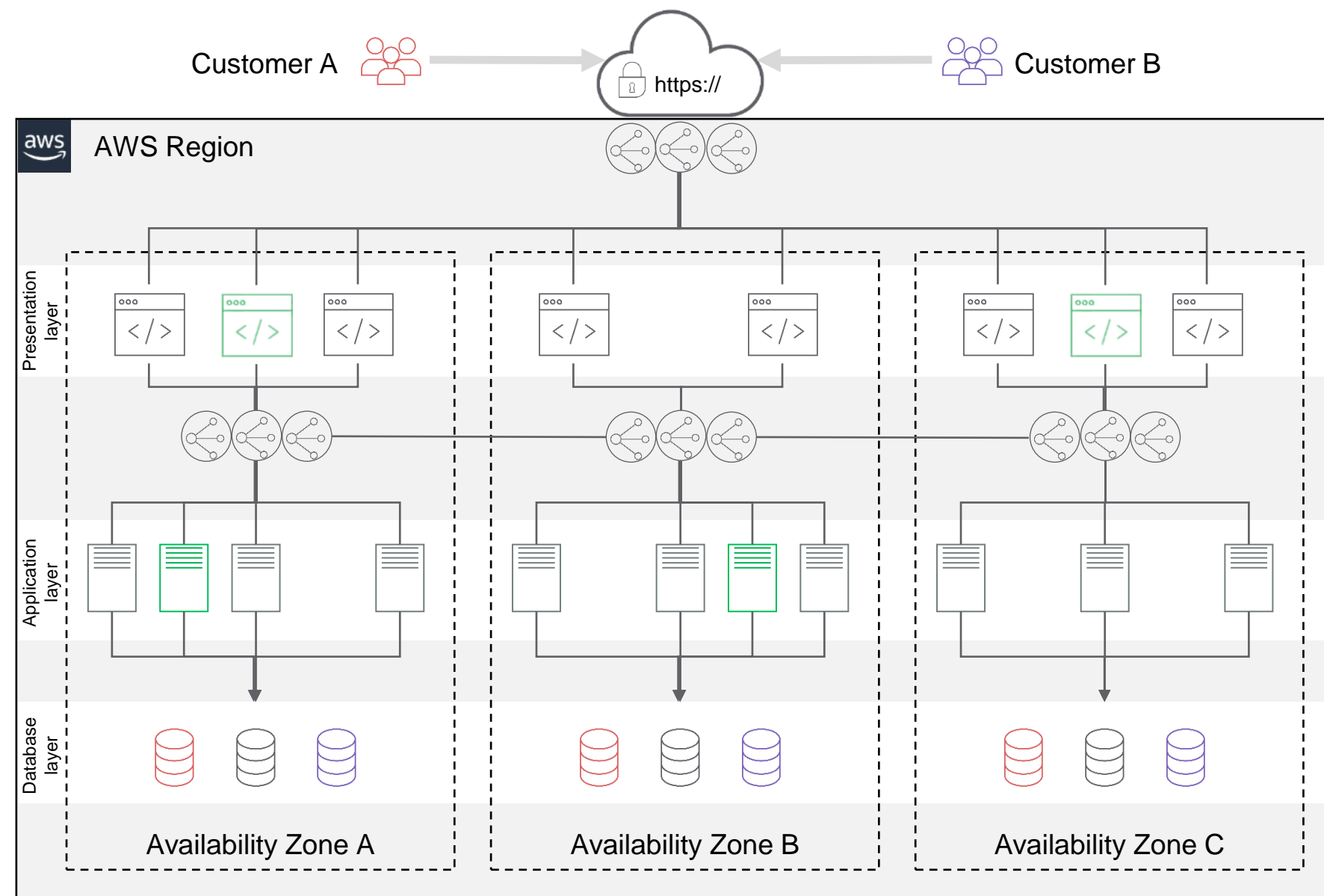
Servers use AWS Elastic Block Store for all storage

Database servers in multiple clusters

- Separate database for each customer
- Customer database is NOT shared
 - Each Tenant has its own database

All Tenants and customers utilise servers in all the AZs simultaneously via Elastic Load Balancers

SaaS model: Multi-tenant infrastructure



(Note: simplified configuration for illustrative purposes only)

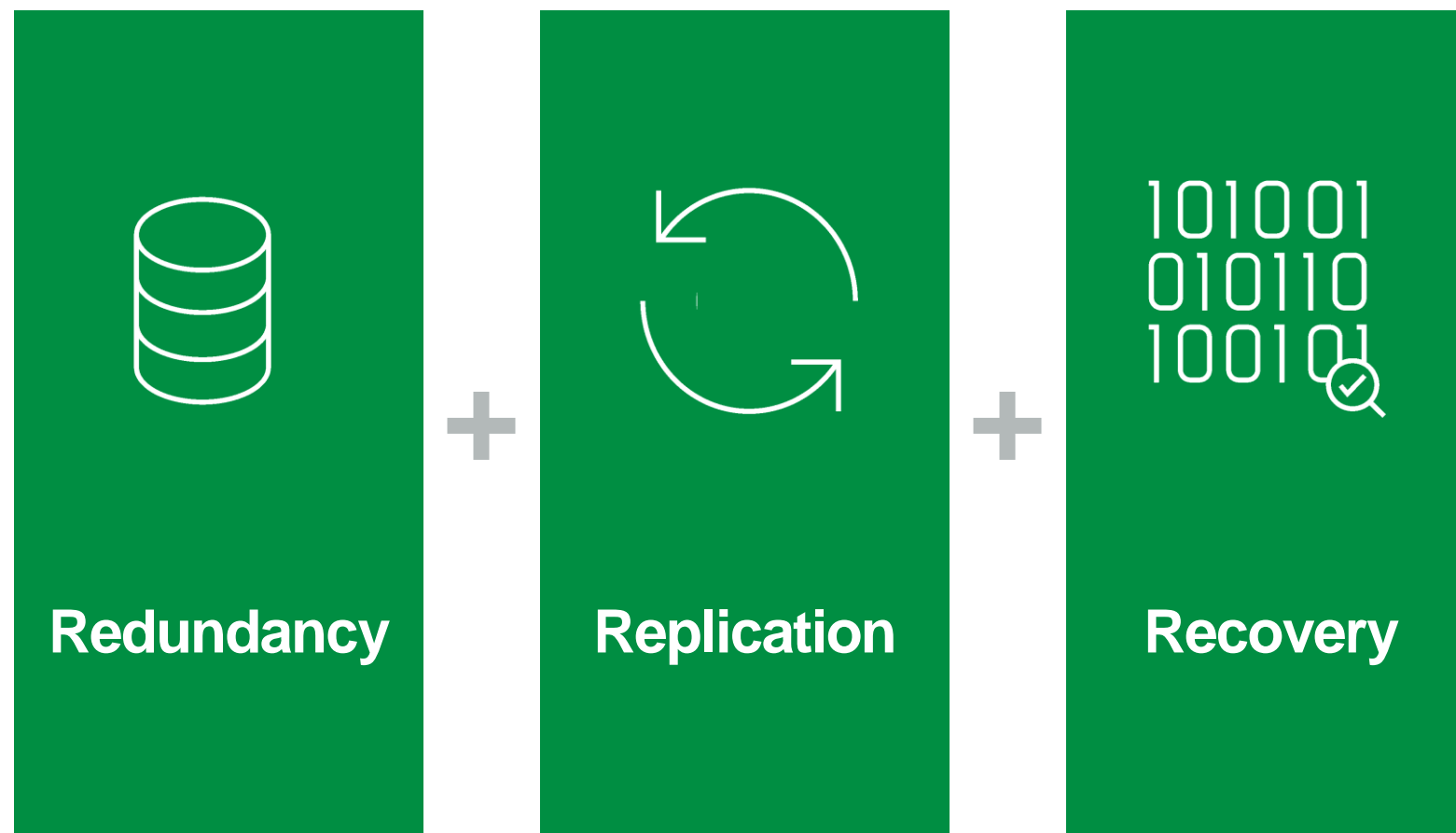
Auto-scaling allows extra resources and/or servers to be added automatically as required

If resources start hitting predefined limits that potentially could affect performance caused by ...

- More subscribers added to the CloudSuites
- Increase in transaction volumes
 - End or start of day loading (orders, invoices etc.)
 - Month / year end processing
 - Seasonal variations
- Etc...

Scale up or out as needed...

Redundancy, replication, recovery

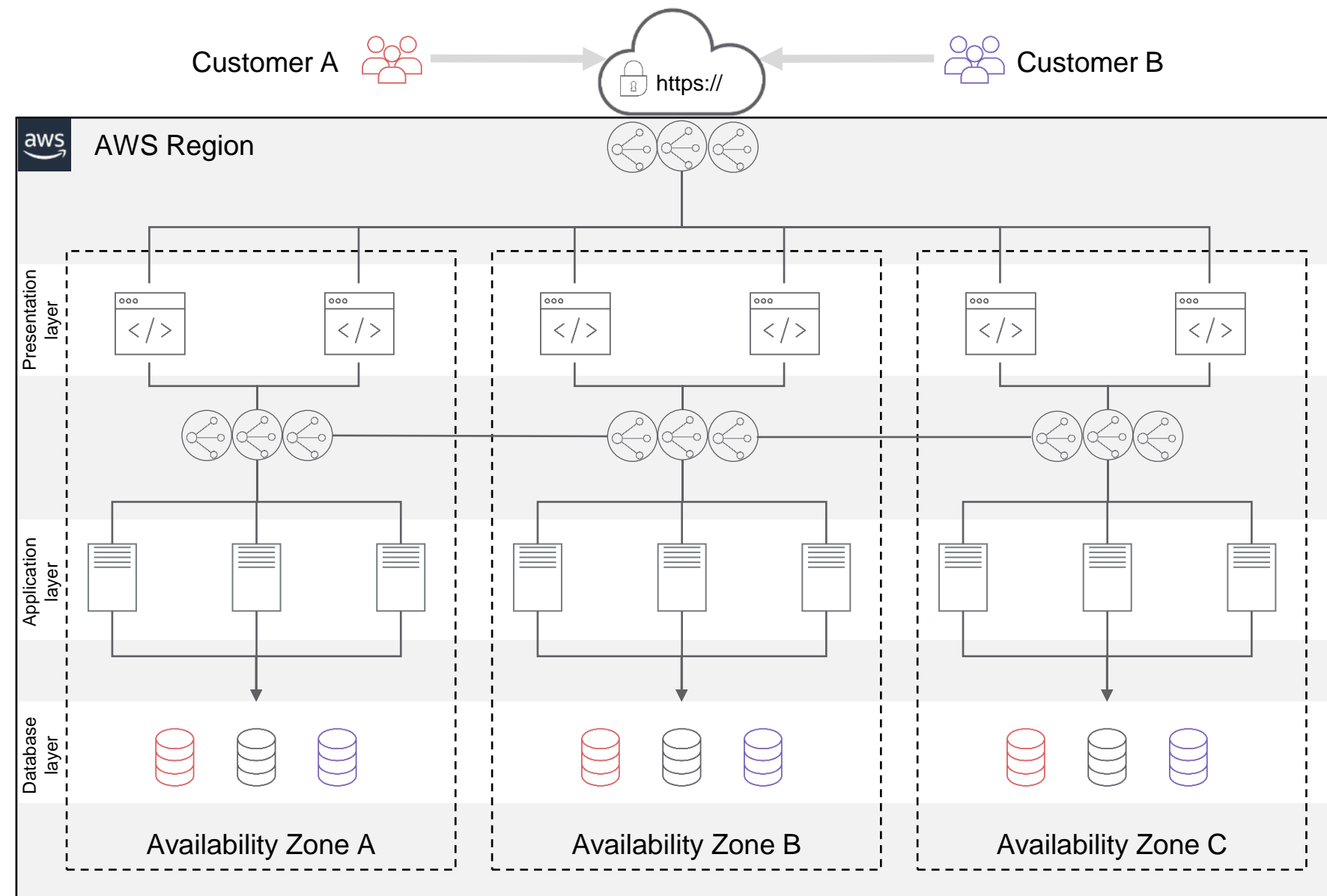


A robust solution

- 99.7% availability SLA*
 - Historically over 99.93%
 - Target of Zero Downtime
- High Availability provided through redundancy of power & equipment
 - CloudSuites are designed to run fully replicated over at least three separate AWS Availability Zones and can continue fully functional with the complete loss of two of the three.
- Self scaling and healing infrastructure
 - As application load increases, additional servers automatically start up to balance the load. As servers show signs of failure, they are automatically replaced by new server instances.
- Regular backups
 - On-line backups retained for up to 35 days

* On-premise infrastructure is the responsibility of the customer to procure & support and not covered by MT SaaS SLAs

CloudSuite architecture – High availability



(Note: simplified configuration for illustrative purposes only)

At least 2 (typically 3 or more) AWS Availability Zones in use

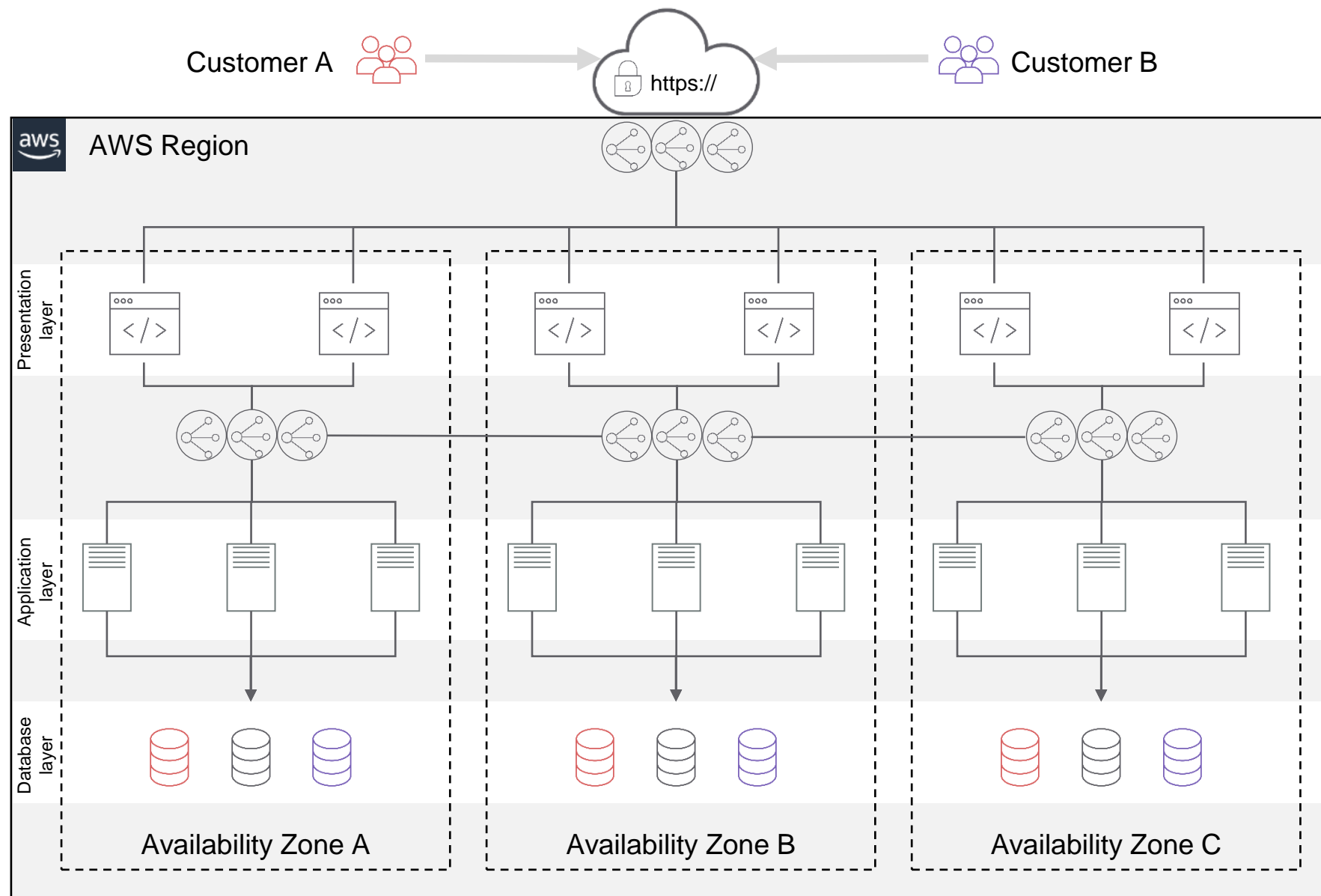
Multiple Auto-Scaling Groups for each workload type

- Auto-scaling replaces failing / failed servers + can add resource capacity

Database servers in multiple clusters

- Uses real time replication with multi-node database clusters
- Automated fail-over

CloudSuite architecture – High availability

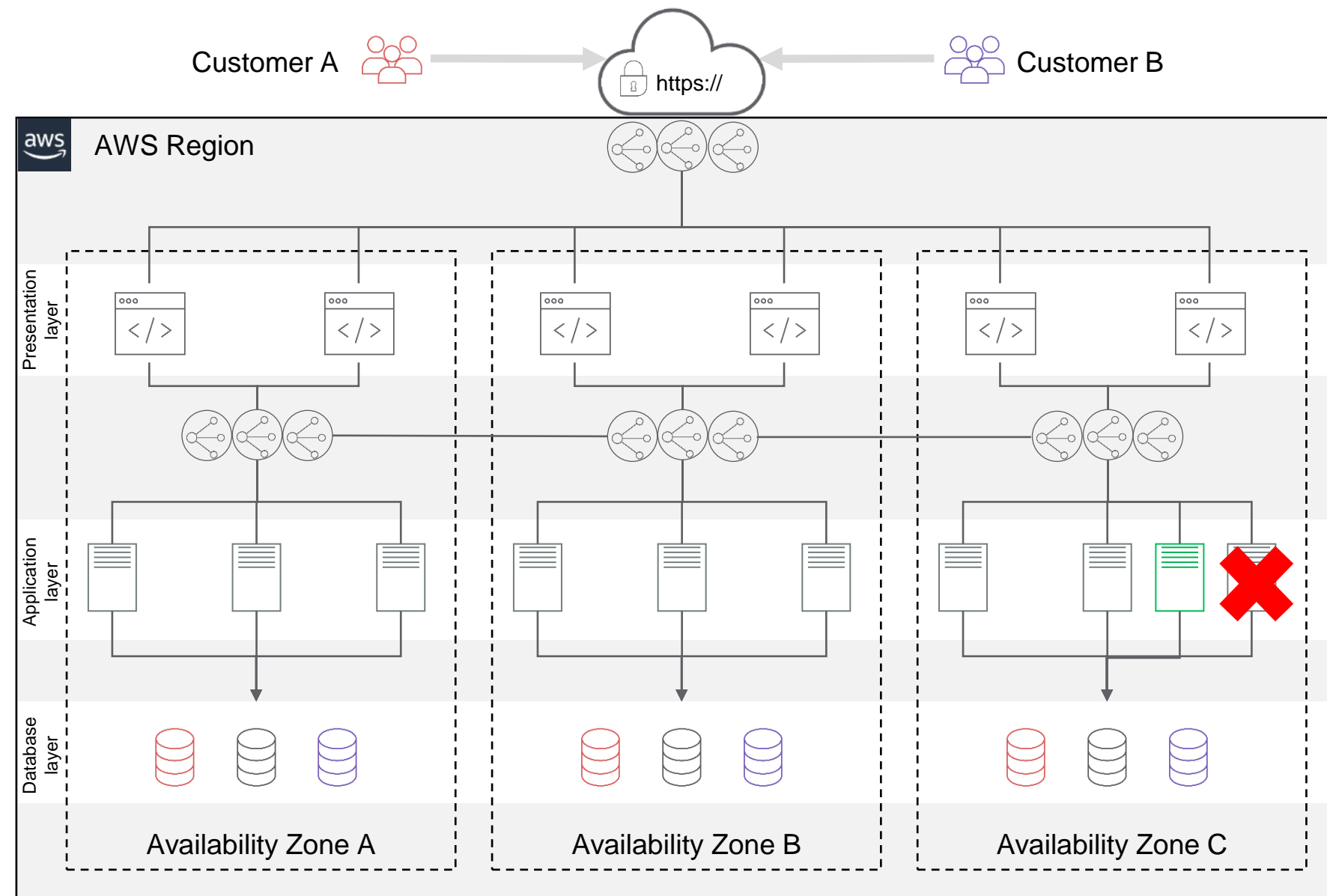


(Note: simplified configuration for illustrative purposes only)

Server looks like its about to fail

- Extra resource added and failing server taken out

CloudSuite architecture – High availability

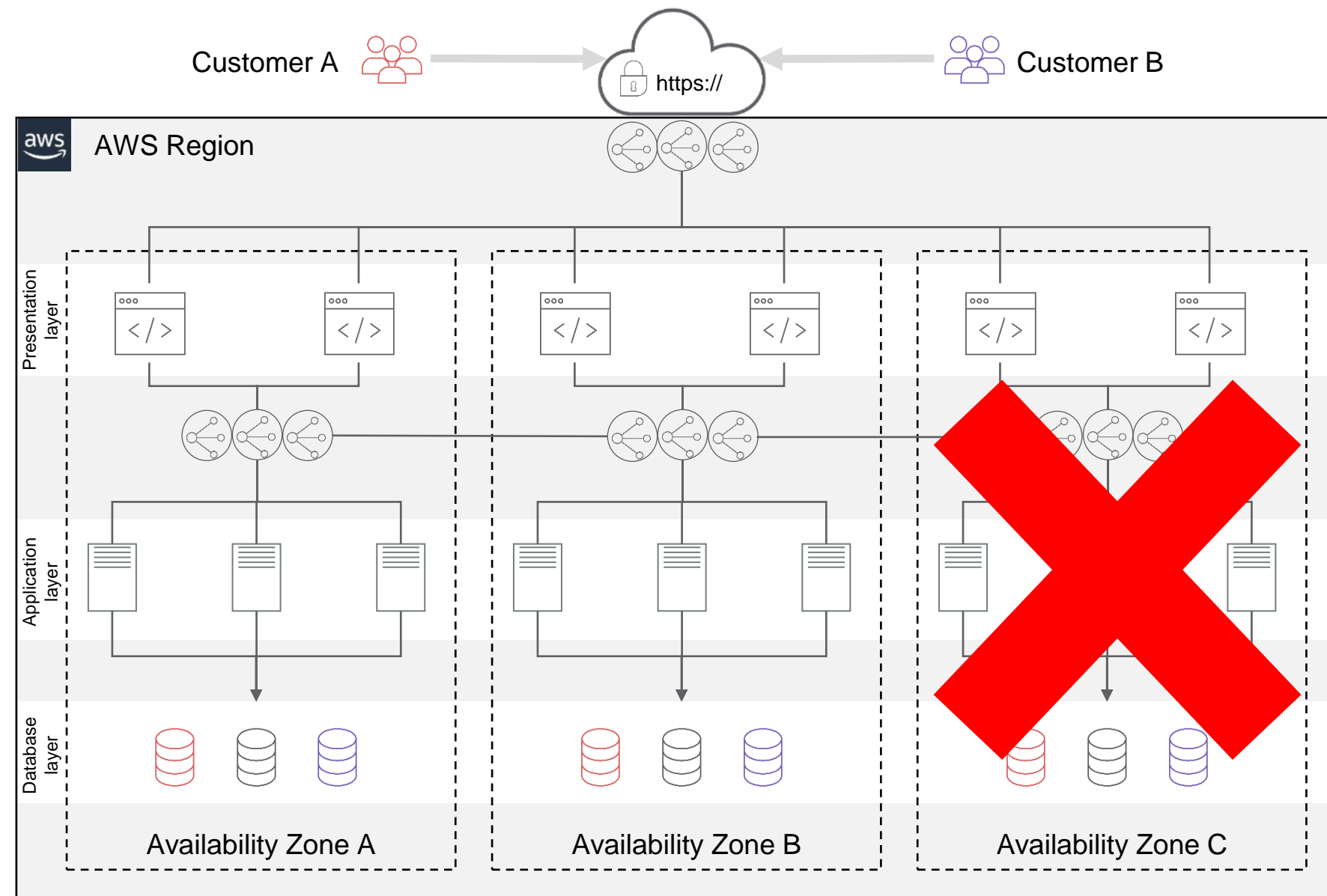


(Note: simplified configuration for illustrative purposes only)

Server looks like its about to fail

- Extra resource added and failing server taken out

CloudSuite architecture – High availability



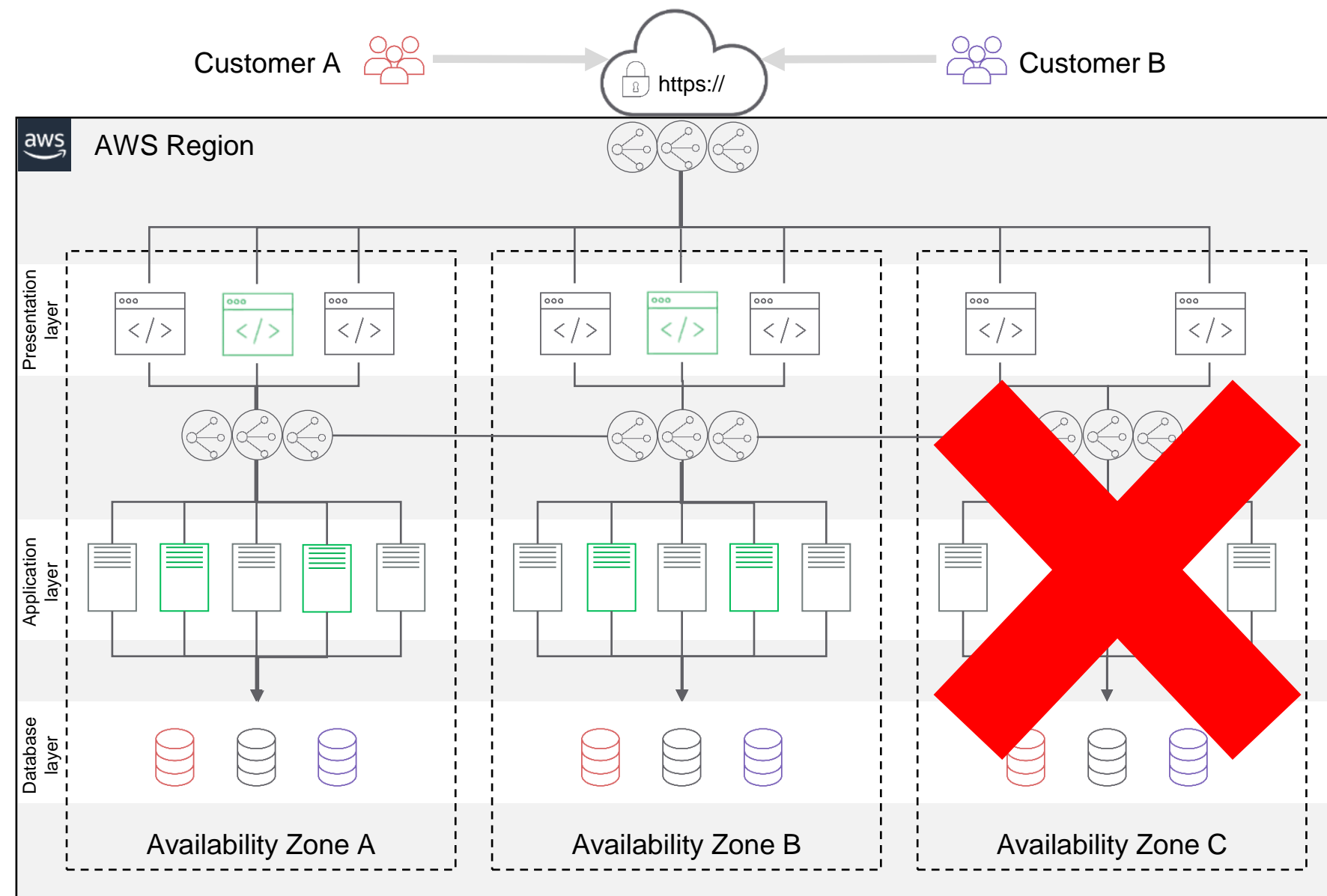
(Note: simplified configuration for illustrative purposes only)

Server looks like its about to fail

- Extra resource added and failing server taken out

In the extremely unlikely event of a major disaster (catastrophic AZ failure), service will continue in the other Azs

CloudSuite architecture – High availability



(Note: simplified configuration for illustrative purposes only)

Server looks like its about to fail

- Extra resource added and failing server taken out

In the extremely unlikely event of a major disaster (catastrophic AZ failure), service will continue in the other Azs

- Servers will **auto scale (up or out)** in the remaining AZs to preserve performance

M3 Performance

Performance Guidelines

Threads

On prem – Few threads where optimal

M3 Cloud – Many threads are optimal



Best Practice for Autojobs

Now possible to enable multi thread for certain Autojobs in MNS051/E.

Recommendation: Change run-mode in MNS051/E from Classic to IMQ

Subsystem	Job	Status	Description	Delay	Table
ASJ	MWS972				
ASJ	MWS972	20-Definite	Printout picking list	10	MMW972
ASJ	MWS973	20-Definite	Auto receipt distribution order	10	MMW973
ASJ	MWS974	20-Definite	Document Output Selection	10	MMW974
ASJ	MWS975	20-Definite	Create Inbound Delivery	60	MMW975

Run mode

The field indicates the mode in which the auto-start job runs.

Alternatives

0 = Classic. In this mode, the auto-start job runs in a single thread. In some auto-start jobs, multiple instances of it can be created. Each of these instances has their own single thread.

1 = IMQ. In this mode, the auto-start job automatically creates multi-threads to process records depending on the size of the queue. Additional instances of the job will not run if the standard instance of it is running in IMQ mode.

IMQA (WEIMQA)

In-Memory Queue

IMQ program

Max queue size

Max nbr consum

Close

Best Practice for Job Queues

KB2059946 Subscribe Actions

M3 Cloud - Welcome Pack for Project Teams - M3 Job Queue set up Best Practice

Revised by Ankita Bergenman • 3m ago • 26 Views • ★★★★★

Start by defining job queues in MNS300 with these Max jobs as described in M3 Job Queue set up Best Practice [KB 2059946](#)

The setting in CRS797 (MRP Jobs) will override the setting in MNS300 (Max active jobs).

It's good practice to have all jobs that update General Ledger in single queue to avoid problems with number series

Job Queue Name	Max Jobs	Description
QBATCH	20	Default job queue for jobs not defined in MNS310
SINGLE	1	Execute one job at the time
PRIORITY	3	Priority jobs
LONGJOBS	5	Long-running jobs
NIGHTJOBS	1	Night job process
FIN_ONE	1	Single finance jobs
FIN_OTHER	5	Other finance jobs
COSTACC	1	Cost accounting jobs

Best Practice for Job Queues

Tasks for Project Team

- Each functional group should review their jobs and classify them in MNS310
- Make sure all important jobs are configured and not using QBATCH job queue.
- To enable "job history" check "Save Job Hist" in MNS310

Review and connect all jobs as suggested in [KB 2059946](#) to the job queues in MNS310

Job Name	Priority	Job Queue Na.
APCH04CL	5	FIN_OTHER
APS056PF	5	FIN_OTHER
APS059CL	5	FIN_OTHER
APS111CL	5	FIN_OTHER
APS139CL	5	FIN_OTHER
APS161CL	5	FIN_OTHER
APS501CL	5	FIN_OTHER
APS521CL	5	FIN_OTHER
APS526CL	5	FIN_OTHER
APS581CL	5	FIN_OTHER
APS915CL	5	FIN_OTHER
ARS116CL	5	FIN_OTHER
ARS142CL	5	FIN_OTHER
ARS143CL	5	FIN_OTHER
ARS149CL	5	FIN_OTHER
'152CL	5	FIN_OTHER

MMS810CL	5	LONGJOBS
MMS981S1	5	LONGJOBS
MMS983S1	4	SINGLE
MMS988CL	4	SINGLE
MMS995S1	4	SINGLE
MMS999S1	4	SINGLE
MNS241CL	5	LONGJOBS
MNS250CL	5	LONGJOBS
MNS261CL	5	LONGJOBS
MNS806CL	5	LONGJOBS
MNS907CL	5	LONGJOBS
MNS995S1	5	LONGJOBS
MWS485CL	3	PRIORITY
MWS630CL	3	PRIORITY
MWS640CL	3	PRIORITY
MWS806CL	5	LONGJOBS
'S821CL	5	LONGJOBS

FCS426CL	5	LONGJOBS
FCS491CL	5	LONGJOBS
GLS040CL	3	FIN_ONE
GLS506CL	3	FIN_ONE
GLS516CL	3	FIN_ONE
GLS526CL	3	FIN_ONE
GLS536CL	3	FIN_ONE
GLS801CL	3	FIN_ONE
GLS861CL	3	FIN_ONE
GLS901CL	3	FIN_ONE
GLS915CL	3	FIN_ONE
GLS943CL	3	FIN_ONE
GLS996CL	3	FIN_ONE
LIS662CL	3	PRIORITY
MFS109CL	3	FIN_ONE
'S186CL	5	LONGJOBS

CRS797 Parallell Jobs Settings

Increase the number of parallell jobs for each area and make note of any performance improvements.

A good starting point is 7.

Parallel Jobs - Settings	
MRP jobs	<input type="text" value="7"/>
Forecast jobs	<input type="text" value="7"/>
Crt stat jobs	<input type="text" value="7"/>
Ret sup reb job	<input type="text" value="7"/>
Lead time jobs	<input type="text" value="7"/>
APS impl jobs	<input type="text" value="7"/>

Best Practice for Internal Account Entry

Now possible to run CAS950/CAS960 in multiple and parallel jobs [KB 2058313](#)

Abstract: It is now possible to run 'Internal Account Entry. Create' (CAS950) or 'Internal Account Entry. Transfer to GL' (CAS960) as parallel jobs. A new table, CINHEA (Internal account entry header), keeps track of the status of each accounting number and controls this functionality.




Background: For large companies there is a need to run several jobs launched from (CAS950) or (CAS960) at the same time in order to have time to process all transactions for a day.

Best Practice for MRP






Recommendations for how to run MRP in M3 BE with focus on performance and database resilience are found in [KB 2033035](#)

This Best Practice guide is applicable from Business Engine version 15.1.4 and upwards.

Some settings and features are exclusive to M3 Cloud Edition.

KB2033035 - Latest Version   [Subscribe](#) [Actions](#) 

M3 BE Best Practices - MRP M3 Materials Requirements Planning (MRP) - Optimizing Performance

 Revised by Fredrik Zachrisson •  9d ago •  58 Views •     

Article Information

Description :
The attached document [M3_BE Best Practices - MRP](#) contains recommendations for how to run Material Requirements Planning (MRP) in M3 BE with focus on performance and database resilience. This Best Practice guide is applicable from Business Engine version 15.1.4* and upwards, i.e. for M3 13.4 and M3 Cloud Edition.
Some settings and features in this area are exclusive to M3 Cloud Edition. See the attached document for further details.

Best Practice for MRP

Read and review your settings based on [KB 2033035](#)

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Best Practice for MRP

Number of parallel jobs

The setting 'MRP Jobs' in 'Settings – Parallel Jobs' (CRS797) is probably the parameter that affects the MRP performance the most, so we strongly recommend using this setting. In this program, it is also possible to define the number of parallel jobs for other processes.

This parameter is by default set to '1' and states the number of threads used when running the material planning calculation from (MMS999) or (RPS999). It can dramatically decrease the execution time.

The optimal number of jobs can vary between 4 and 20, and this is something that depends on the system configuration, database and the number of processing units.

Best Practice for MRP

Continuous net change with IMQ⁴

To enable faster processing of continuous net change items, activate the auto-start job (RPS911) in (MNS051). It will automatically start multiple instances that can perform MRP calculations in parallel if the net change queue increases in size. The (MMS911) auto-start job is still needed to feed (RPS911) with work, and it ensures that the queue is processed in low-level code order. If active, (RPS911) will automatically start if there is work in the queue, and shut down if no work remains. If abnormally terminated, it will automatically restart and completely any unfinished work.

Best Practice for MRP

Planning method

Only set 'Planning method' = '1-MRP' for items that actually need to be MRP planned. For low-cost items with predictable demand, it may work quite well to set the item to '2-ROP whs'. Reorder point planning is simpler and faster to calculate, as it will:

- Only read the material plan inside lead time/PTF.
- Only create one planned order.

Best Practice for MRP

MMS002 Item. Connect Warehouse

Actions ▾ Options ▾ Related ▾ Tools ▾ | + ↗ ✎ 🗑️ 📄 🗑️ 🔄 📄 | ✎ ? ▾ ☰

Item

Item number DUMLE

Warehouse Workmans - Distribution Centre

Planning Parameters

Note	<input type="text"/>	Facility	<input type="text" value="A01"/>
Planner	<input type="text" value="ANDGUN0"/>	Period frame	<input type="text"/>
Acquisition cd	<input type="text" value="2-Purchased"/>	Planning policy	<input type="text" value="D1"/> MRP/DRP
Planning method	<input type="text" value="1-MRP"/> ?	Supply c policy	<input type="text"/>
Mastr scheduled	<input type="text" value="0-Not mstr sch it"/>		

Planning method

The field indicates the material planning method set for the item/warehouse during acquisition order entry. There are two basic methods (material requirements planning and reorder point planning) used to plan and create acquisition orders.

Alternatives

0 = Manually planned

1 = Material requirements planning (MRP)

2 = Reorder point planning (ROP) per item/warehouse

3 = Order-driven - Acquisition orders are only triggered, created and released by a requiring order

4 = Reorder point planning (ROP) per item and facility

5 = Reorder point planning (ROP) per item and global facility.

Material requirements planning (MRP) is a set of techniques that uses bills of material, inventory data, and the master production schedule to calculate requirements for materials.

Reorder point planning (ROP) is a set inventory level that triggers an acquisition order. If the total on-hand balance plus stock on order equals or falls below the reorder point, the triggered acquisition order replenishes the stock.

Order-driven (alternative 3) means that the order is created and released only in direct relation to the controlling order.

Note

The planning method is a key parameter and it affects the entire material planning process in M3.

OPLC (MBOPLC)

Close

Best Practice for MRP

Available-to-Promise

The ATP parameters are set up in the CTP policy, which is defined in 'Capable-to-promise Policy. Open' (CTS090) and assigned to an item in (MMS002).

Do not set up all items as ATP items, as this should normally only be done for items coded as sales items, and only activate it for items where that kind of detailed availability check is required.

Avoid having the parameter 'Available-to-Promise calculation' set to '1-At changes' or '3-At change type 2' in the CTP policy. This will recalculate the ATP for all ATP items as soon as something changes in the material plan. Instead set this parameter to 2 or 4, and the ATP will be recalculated only when needed.

Best Practice for MRP

CTS090 Capable-to-Promise Policy. Open

Actions ▾ Options ▾ Related ▾ Tools ▾ | + ↗ ↻ ↪ ↩ ? ▾ ≡

CTP policy: 002

Description: Not required

Name: Not required

Detailed Information

ATP parameters:

ATP calc: 0-No calculation ?

ATP level: 1-Item

Finite ATP:

Excl alloc qty:

Excl non-alloc:

Cons safety tme:

Available-to-promise calculation

The field indicates how and when available-to-promise (ATP) is calculated for the item.

ATP is calculated up to the planning time fence (including adjustments) and should be activated for items with independent requirements and considering the current demand frequency.

Alternatives

0 = Not calculated

1 = Calculated on-line for all changes in the material plan

2 = Calculated on-line when ATP information is required in order entry. This is the most common alternative for sales items

3 = As alternative 1, but with reduction of item balance for all reservations up to and including lead time date.

4 = As alternative 2, but with reduction of item balance for all reservations up to and including lead time.

ATPC (WWATPC)

Close

Best Practice for MRP

Planning horizon

The parameter 'Planning horizon' in (MMS002) is the number of days into the future MRP will plan. It is normally expressed as number of working days, but for purchased items it can be calendar days (if 'Settings – Purchasing' (CRS780) parameter '33 Lead time days per week' = 7). The planning horizon should normally not be longer than the accumulated critical lead time of the supply chain, with possibly some added safety time if needed. This is sufficient for day-to-day MRP planning purposes.

The planning horizon can be automatically calculated with 'Calculate PTF and planning horizon' (MMS355).

Using a longer planning horizon than necessary is considered a bad practice, especially if used for many items. It will result in MRP calculations taking longer time to finish, because:

1. MRP will look further into the future, reading more forecast and material plan records.
2. More planned orders will be created or updated for future dates. This will be especially significant if the product structure has many material lines and MRP creates planned manufacturing orders.

Best Practice for MRP

Planning horizon

The parameter 'Plan horizon' will plan. It is normally be calendar days (if 'Standard week' = 7). The planning horizon should be sufficient for day-to-day

MMS002 Item. Connect Warehouse

Actions ▾ Options ▾ Related ▾ Tools ▾ | + ↗ ✎ 🗑️ 📄 🗑️ 🔄 📅 | ✎ ? ▾ ☰

Item

Item number 🔍 DUMLE

Warehouse 🔍 Workmans - Distribution Centre

Planning Parameters

Note

Planner Facility

Acquisition cd ▾ Period frame

Planning method ▾ Planning policy MRP/DRP

Mastr scheduled ▾ Supply c policy

Admin lead tm

Postal lead tme

Supply lead tm

Transp lead tm

Inspec lead tm

Cont net change 📅

Plan horizon

Safety time

Demand tm fence

Planng tm fence

ate PTF and planning hori-

ad practice, especially if
er time to finish, because:

st and material plan rec-

dates. This will be espe-
l lines and MRP creates

M3CE About

M3CE About									
Component	Release Version	Version	Activation Date	Module	Summary	Issue Type	Issue Reference	Externally Reported	
▼ M3 Business Engine									
M3 Business Engine	2024.09.09	16.0.0.20240705143047	2024-09-21	M3 BE Finance	CAS180 : Performance issue. Takes very long time.	Bugfix	M3FIN-15869	N	
M3 Business Engine	2024.09.09	16.0.0.20240711170929	2024-09-21	M3 BE Sales Management	Performance enhancement for CO Invoice archiving (OIS095)	Bugfix	M3SLS-10489	N	
M3 Business Engine	2024.09.09	16.0.0.20240629041739	2024-09-21	M3 BE Application Founda	Performance improvement when deleting from detail tables	Enhancement	M3ACE-30735	N	
M3 Business Engine	2024.09.09	16.0.0.20240624120649	2024-09-21	M3 BE Application Founda	Performance Improvement: 'Output resend' (MNS950) Auto-start Job	Enhancement	M3ACE-29919	N	
M3 Business Engine	2024.09.09	16.0.0.20240624073401	2024-09-21	M3 BE Application Founda	Performance Improvement: 'Output resend' (MNS950) Auto-start Job	Enhancement	M3ACE-29919	N	
M3 Business Engine	2024.08.09	16.0.0.20240528170010	2024-08-17	M3 BE SCE	Performance - Avoid unnecessary DB readings when adding on existing	Enhancement	M3SC-3319	N	
M3 Business Engine	2024.08.09	16.0.0.20240523063001	2024-08-17	M3 BE SCE	Performance improvement MWS450CL Print put away label	Enhancement	M3SC-7045	N	
M3 Business Engine	2024.07.11	16.0.0.20240506131407	2024-07-27	M3 BE Finance	GLS215 performance issues	Bugfix	M3FIN-15112	N	
M3 Business Engine	2024.07.11	16.0.0.20240513103534	2024-07-27	M3 BE SCE	MWS411MI Release or reverse preliminary and planned deliveries - Pe	Enhancement	M3SC-7053	N	
M3 Business Engine	2024.07.11	16.0.0.20240426181154	2024-07-27	M3 BE SCE	Performance improvement MMS200MI LstSumWhsBal and LstItmWhsBal	Enhancement	M3SC-7049	N	
M3 Business Engine	2024.06.07	16.0.0.20240322011513	2024-06-15	M3 BE Application Founda	Performance for custom language handling	Bugfix	M3ACE-29810	N	
M3 Business Engine	2024.06.07	16.0.0.20240412141657	2024-06-15	M3 BE Finance	Performance improvements when deleting third currency transactions in	Bugfix	M3FIN-14728	N	
M3 Business Engine	2024.06.07	16.0.0.20240409152618	2024-06-15	M3 BE SCE	Performance issue updating warehouse interface details with MHS850M	Bugfix	M3SC-7511	N	
M3 Business Engine	2024.06.07	16.0.0.20240408090742	2024-06-15	M3 BE Sales Management	Performance POS: Redundant code in update of sales statistics	Bugfix	M3SLS-9936	N	
M3 Business Engine	2024.06.07	16.0.0.20240415074122	2024-06-15	M3 BE Application Founda	Performance Improvement - 'Information Browser MI' (CMS100MI)	Enhancement	M3ACE-29988	N	
M3 Business Engine	2024.06.07	16.0.0.20240416013559	2024-06-15	M3 BE Application Founda	Performance Improvement of CMS100, CMS100MI, EXPORTMI, and M	Enhancement	M3ACE-29758	N	
M3 Business Engine	2024.06.07	16.0.0.20240411020358	2024-06-15	M3 BE Application Founda	Performance Improvement: 'Output resend' (MNS950) Auto-start Job	Enhancement	M3ACE-29919	N	
M3 Business Engine	2024.06.07	16.0.0.20240405131258	2024-06-15	M3 BE Application Founda	Performance Improvement: 'Output resend' (MNS950) Auto-start Job	Enhancement	M3ACE-29919	N	
M3 Business Engine	2024.05.07	16.0.0.20240307131822	2024-05-18	M3 BE Finance	(MJP) Performance issue in ARS190	Bugfix	M3FIN-14542	Y	
M3 Business Engine	2024.05.07	16.0.0.20240227145858	2024-05-18	M3 BE Sales Management	OIS101/H :performance issue when discount model is used	Bugfix	M3SLS-9209	Y	
M3 Business Engine	2024.05.07	16.0.0.20240318172728.2	2024-05-18	M3 BE Application Founda	Performance for custom language handling	Bugfix	M3ACE-30081	N	

M3 Performance

Integration

M3 MI Programs

Updated MI transactions whith an increase in performance [KB 2313562](#)

New API Transaction	Old API Transaction	Description
MMS200MI.Get	MMS200MI.GetItmPrice	New get transaction retrieves the price
MMS200MI.Get	MMS200MI.GetBasicData	New transaction is much faster since it does not require advanced calculations.
OIS100MI.GetOrderHead	OIS100MI.GetHead	New transaction is much faster since it does not require advanced calculations.
MMS200MI.SellItemByWhsByItm	MMS200MI.LstItmWhsByItem	New transaction is much faster since it does not require advanced calculations.
OIS100MI.Confirm	OIS100MI.Confirm	Confirm in batch now gives order number as

M3 API Toolbox

Program: MDBREADMI
Description: Generic MI for reading tables

Program: CMS100MI
Description: Custom list designer MI

Transaction	Description	Sts
LstBlkAgLn	Item overview	20
LstBomMtrl	List bill of material components	20
LstBomOper	List bill of material operations	20
LstBupPopByBuy	List PO proposals by buyer	20

Program: EXPORTMI
Description: Data export

Transaction	Description
LstFields	List table fields
Search	Search
Select	Select
SelectPad	Select with reply

Program: EXPORTMI
Transaction: Select - Select
Include General Transactions:

Input Data:
SEPC Alpha(1): ;
HDRS Integer(1): 1
QERY Alpha(982): 4FUDS,MMITNO from MITMASV1
MMFUDS,MMITNO from MITMASV1 where MMITGR

Relative performance

- EXPORTMI with specified index = 1
- MDBREADMI = 1,1
- EXPORTMI without specified index = 1,4
- CMS100MI without related tables = 10
- CMS100MI addition per extra related table = 5

EXPORTMI

- Specify index and related filters (requires filters according to selected index)
- Supports user defined index (U, V, X sorting options)
- Possible to use more than 10000 records when index is selected

M3 MI Programs with NFTR input field

Transactions where the input field NTFR, number of filters, have been introduced.

This field can be used to specify how many keys should be included in the filtering.

This can significantly reduce the returned result set. Link to [docs](#)

Number of Filters (NFTR)

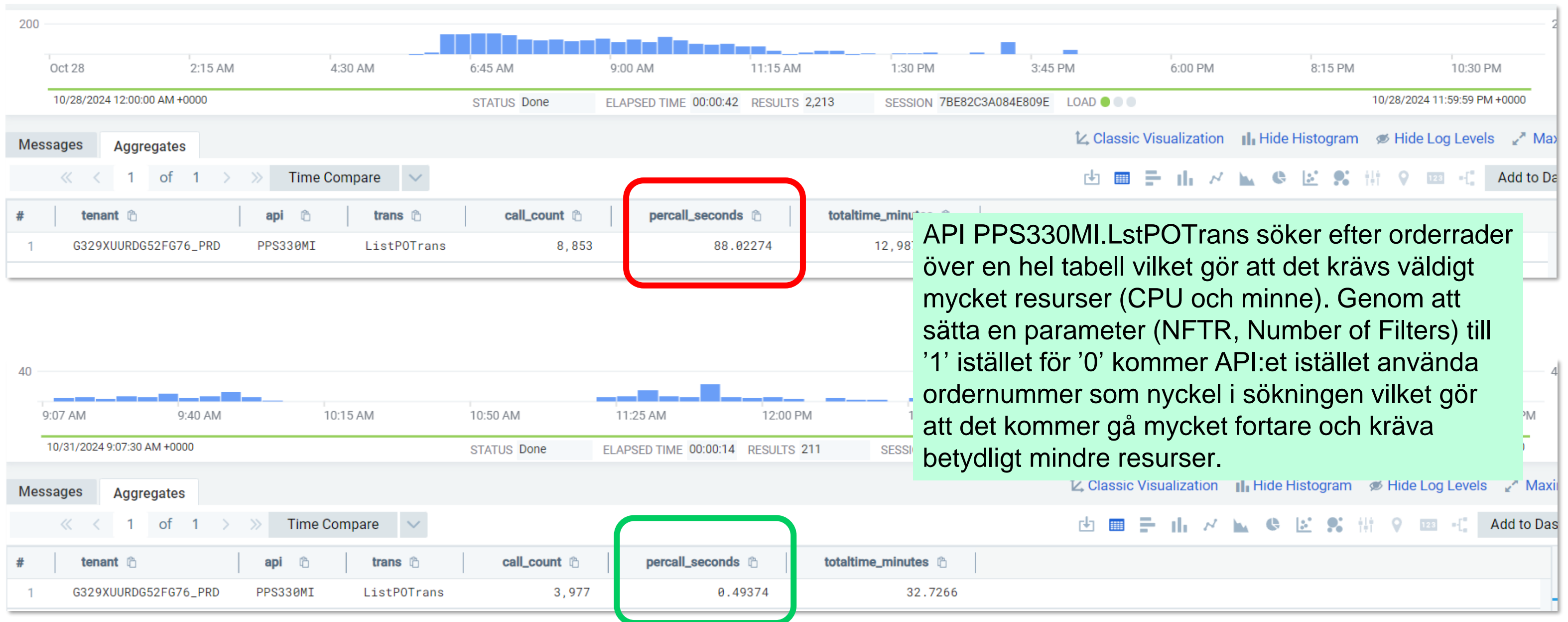
Number of Filters (NFTR) is a filtering method for listing records where only the exact matches are returned by the API based on the parameters provided. Depending on the set of fields available for selection, NFTR can be used to filter exact matches using multiple fields in specific order.

For example, MMS015MI is an NFTR enabled API and it has these key fields: ITNO, AOTP, and ALUN. The list of records that MMS015MI returns depends on the NFTR value.

- NFTR = blank returns unfiltered data.
- NFTR = 1 returns exact matches for ITNO field.
- NFTR = 2 returns exact matches for ITNO and AOTP fields.
- NFTR = 3 returns exact matches for ITNO, AOTP, and ALUN fields.

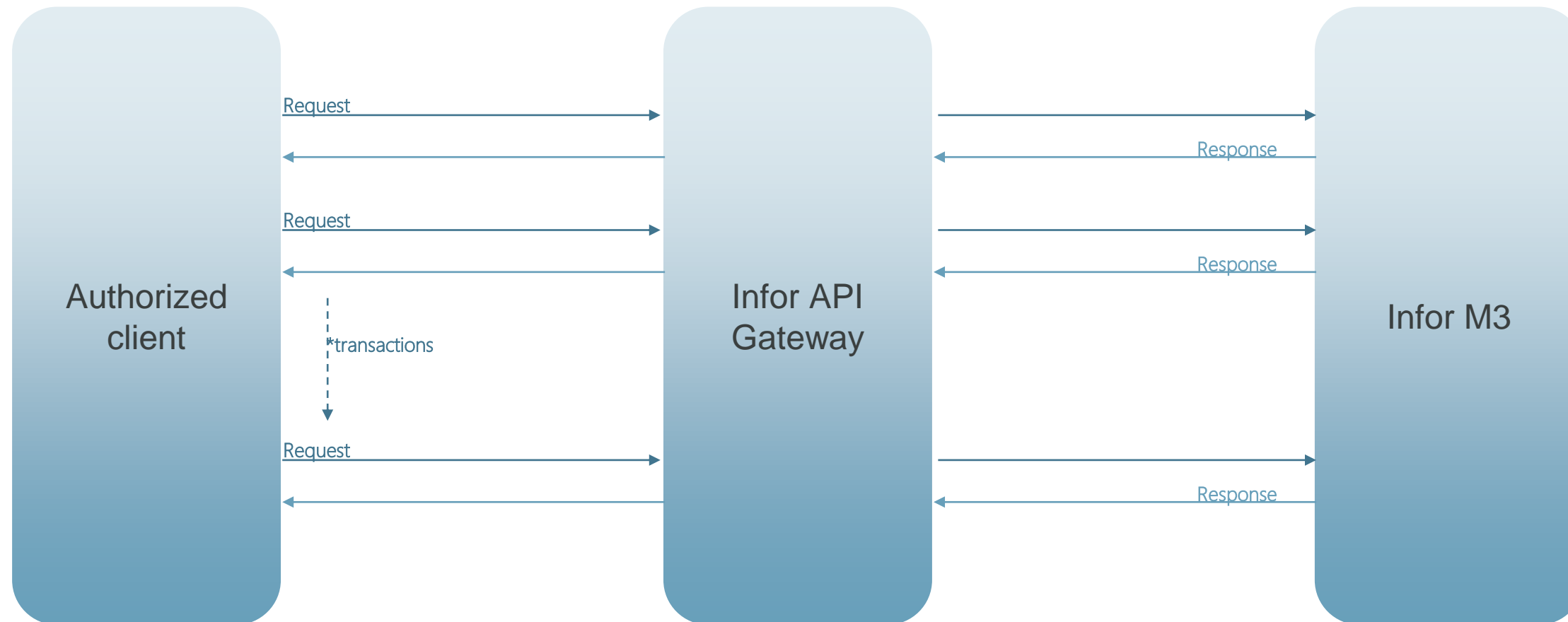
This functionality is a replication of the filtering method used in interactive programs wherein key fields are based on the sorting options configured. This additional capability applied to APIs provides more flexibility and control in both positioning and filtering records. It is recommended to use NFTR for API usage that intends to get exact matches to improve the API performance and provide better results.

M3 MI Programs with NFTR input field



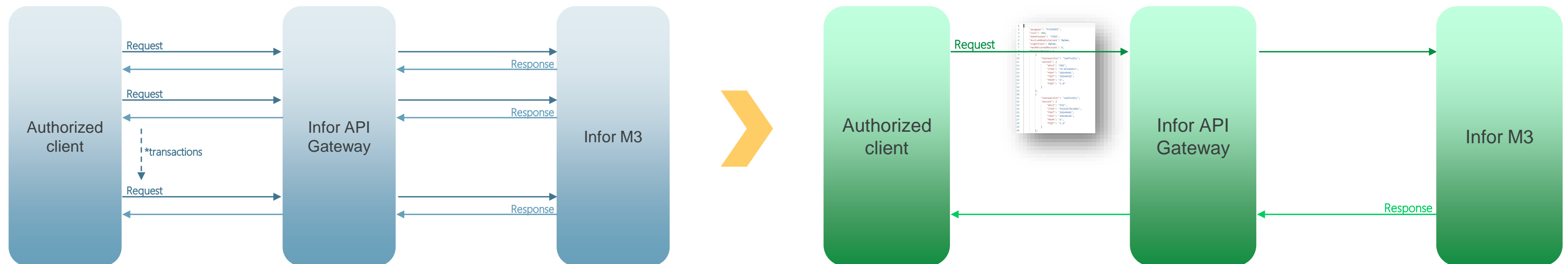
Traditional Requests

In many integration scenarios, there is a need to make many updates in the system. With the nature of internet, the latency for each HTTP connection is normally higher in a cloud solution compared to on-prem.



Bulk Request

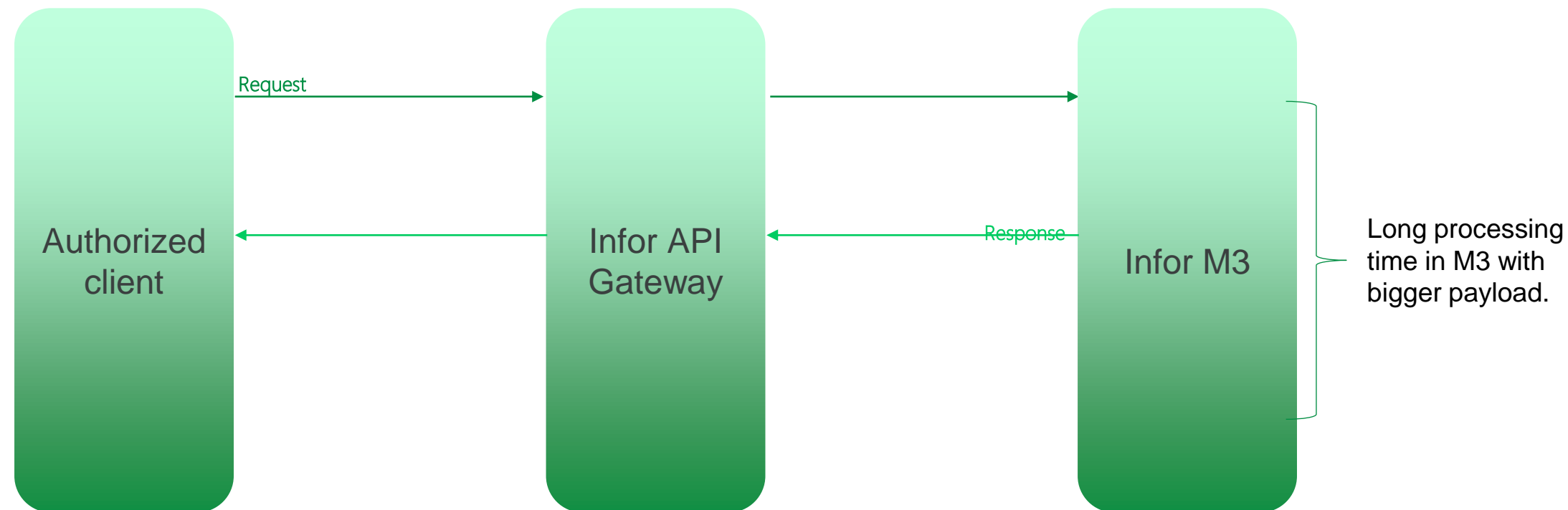
To reduce the total latency a bulk request can be used where several requests are group together. Infor M3 has had a synchronous bulk operation since version 2 of the M3 MI API.



Bulk Request

To reduce the total latency a bulk request can be used where several requests are group together. Infor M3 has had a synchronous bulk operation since version 2 of the M3 MI API.

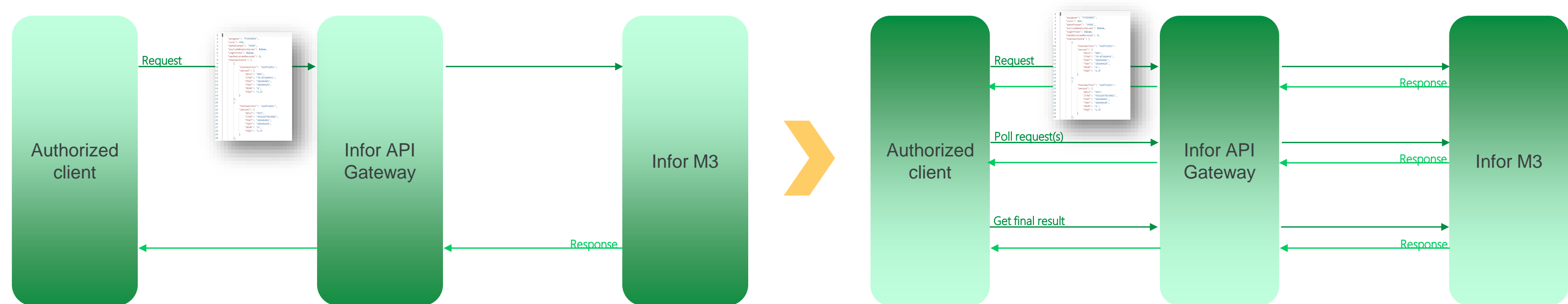
Large payloads can lead to timeout if server does not respond within 60 seconds.



```
1
2 "program": "FCS350MI",
3 "cono": 400,
4 "dateFormat": "YMD8",
5 "excludeEmptyValues": false,
6 "rightTrim": false,
7 "maxReturnedRecords": 0,
8 "transactions": [
9   {
10    "transaction": "UpdForQty",
11    "record": {
12      "WHLO": "001",
13      "ITNO": "75-BT1029V1",
14      "FDAT": "20240401",
15      "TDAT": "20240428",
16      "MDVR": "A",
17      "FOQT": "1.0"
18    }
19  },
20  {
21    "transaction": "UpdForQty",
22    "record": {
23      "WHLO": "S32",
24      "ITNO": "43U1657014001",
25      "FDAT": "20240401",
26      "TDAT": "20240428",
27      "MDVR": "A",
28      "FOQT": "1.0"
29    }
30  },
31 ]
```

Introducing Asynchronous Bulk API

To reduce the risk of time out, Infor M3 is now supporting asynchronous bulk operation where the client will send the bulk request to Infor M3 (executeAsyncSnd)), the bulk request is stored, and a bulk job ID is returned to the client. The client can can poll for the progress (getAsyncSnd/{bulkJobId}) and when the job is finished request to get the result and remove the stored request from Infor M3.



Best Practice for Integration Performance

Regularly review [KB 2017962](#) M3 Integration and Infor OS content Knowledge Base Articles

Updated MI transactions whith an increase in performance [KB 2313562](#)

M3 BODs Performance Improvements [KB 2232142](#)

New API Transaction	Old API Transaction	Description
MMS200MI.Get	MMS200MI.GetItmPrice	New get transaction retrieve
MMS200MI.Get	MMS200MI.GetBasicData	New transaction is much fa that requires advanced calc
OIS100MI.GetOrderHead	OIS100MI.GetHead	New transaction is much fa that requires advanced calculations.
MMS200MI.SellItemByWhsByItm	MMS200MI.LstItmWhsByItem	New transaction is much faster since it does that requires advanced calculations.
OIS100MI.Confirm	OIS100MI.Confirm	Confirm in batch now gives order number as

BOD	Title	Link to KB Article
SyncSourceSystemGLMovementActual	SyncSourceSystemGLMovementActual: refactor Event Analytics rules to use programmatic events	KB 2200994
ProcessShipment	ProcessShipment enhancement on OIS155MI.ListDeliveries input fields retrieval	KB 2230077
Sync/ShowShipmentDelivery	SyncShipmentDelivery refactored to limit API calls	KB 2230076
Sync/ShowItemMaster	SyncItemMaster enhancement Classification/Description hand	
Sync/ShowReceiveDelivery	SyncReceiveDelivery enhancem incorporate the PPS330MI.LstP	

- Transaction**
- PPS330MI.LstPOTrans
 - COS119MI.LstByOrder
 - CMS055MI.LstByCustome
 - OIS530MI.LstLine
 - PPS215MI.LstPOCharges
 - CMS082MI.LstFields
 - CMS083MI.LstValues

Performance

Benchmark of M3CE Sales Process

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Benchmark of M3CE Sales Process

The benchmark focuses on these components within M3 CE.

- Core M3 (Interactive / Batch / MI / Auto nodes)
- M3 UI Adapter (H5)
- Infor Enterprise Function Search
- Event Hub / Event Analytics
- SalesHub

Benchmark of M3CE Sales Process

The test contains both user-driven and system-to-system transactions. The goal was not to flood the system with only orders or a single transaction, but instead have a mix of orders and common M3 APIs flowing into the system from different paths.

The test simulates these totals:

- 3 500 named users
- Over 1 million API calls per hour
- Over 65 000 orders per hour
- Nearly 200 000 order lines per hour

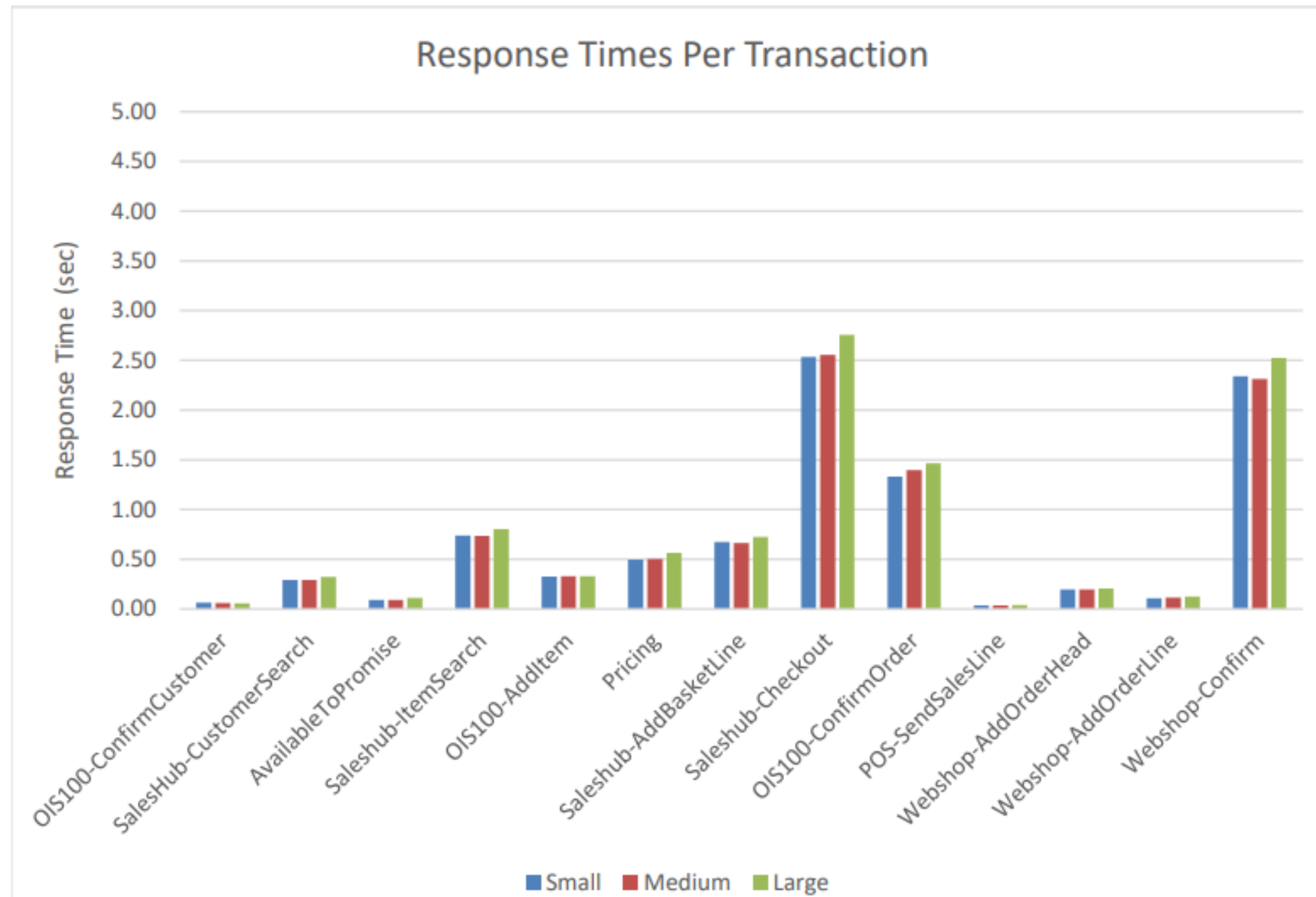
Average Response Times

Company size	Virtual users	Simulated users	API calls/h	Orders/h	Order Lines/h
Small	250	875	250 000	16 250	49 000
Medium	500	1 750	500 000	33 000	99 000
Large	1 000	3 500	1 000 000	66 000	197 700

Scenario	Name	Small	Medium	Large
SalesHub	Customer search	0.29	0.29	0.32
	Item search	0.74	0.74	0.80
	Post basket line	0.67	0.66	0.73
	Checkout (CreateSalesOrder)	2.54	2.56	2.76
OIS	Enter customer	0.06	0.06	0.06
	Add item	0.33	0.33	0.33
	Confirm order	1.33	1.39	1.47
API	AddBatchHead	0.20	0.20	0.21
	AddBatchLine	0.11	0.12	0.13
	Confirm	2.34	2.31	2.53
M3 API	Available to promise	0.09	0.09	0.11
	Pricing	0.50	0.50	0.57
	Add ticket line	0.04	0.04	0.04

Average Response Times

Company size	Virtual users	Simulated users	API calls/h	Orders/h	Order Lines/h
Small	250	875	250 000	16 250	49 000
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Large	1 000	3 500	1 000 000	66 000	197 700



Tips&Trix

Väl mött igen på Stora Teknikdagarna i December!



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