



# M3 User Group meeting summary, Kista, Sweden

## A summary for the M3 User Groups members

Toni Kennedy and Henrik Billgren of Infor invited the board members of the M3 User Groups to a two-day session at Infor in Kista 17-18.10.2019. One of Infor's purpose with this is to build confidence and trust in the M3 user community for the M3 Cloud Edition (CE) as well as Infor OS; one version of the software, continuous delivery and the processes to deliver with the quality required in a multi-tenant cloud.

Note that this summary is mainly the editor's / User Groups' interpretation of the two-day session, we cannot guarantee that our understanding is 100% accurate on all parts.

Please refer to the Infor presentations for details.

### Welcome & M3 the bigger picture (Toni Kennedy & Henrik Billgren)

This two-day session is targeted on M3 CE. The M3 development is handled by Henrik Billgren's development organization consisting of 600-700 people on different locations.

At present, there are 30 CE customers in US East, 30 CE customers in Frankfurt, 2 CE customers in Tokyo and 8 CE customers in Sydney (these are Amazon locations for CE). These customers are deployed, not necessarily live (some are live, and several are planned for go-live this fall).

Currently there is a 4-hour maintenance window per month where the system may be unavailable to

the users. For e.g. Frankfurt this is 4 hours on the second Saturday each month. Infor is working towards silent updates in order to reduce the length of the maintenance window.

Local.ly; 47 countries are CE ready, 24 countries are planned for CE, and 37 countries are to be decided.

Currently there are no firm plans for when the next on-premise version of M3 will be available. The development organization will work on this the coming year. What seems clear is that it must be based on "cloud technology", may be some private cloud. However, note that some technologies are based on AWS<sup>1</sup> cloud technology, e.g. Data Lake and Coleman.

### Our way of working (Erik Svenson, Mathias Blomkvist)

The development splits the year in 4 planning periods. For each planning period there is a cycle with 3 iterations.

For each area of M3 (BE-Business Engine) a squad (team) is responsible for the development. Each squad has members from several Infor locations. E.g. Finance squad has approx. 50 members from 4 different Infor locations and has responsibility for the development of the finance area within M3 CE.

The delivery of new features is grouped in non-disruptive, feature toggles and disruptive updates<sup>2</sup>. The toggles are used to enable the customer to test new features that are introduced in a controlled manner. The feature is not active when delivered, and the customer can activate a feature and test it in the test environment prior to enabling it in the production environment. The feature is still controlled by parameter setting in M3 as is the case today. Activation and deactivation of a feature toggle makes the feature active/inactive in the environment immediately.

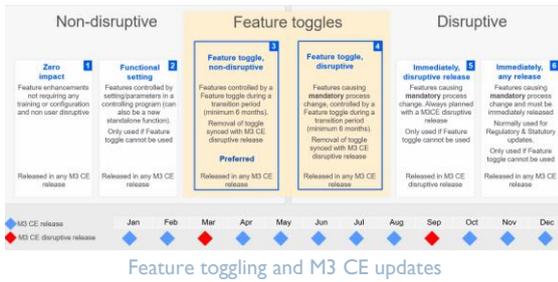
A feature controlled by a feature toggle will be made mandatory after a period of minimum 6 months. This will have an impact on how the M3 customers operates, and the processes for M3 maintenance. Traditionally, a customer satisfied with the M3

<sup>1</sup> AWS-Amazon Web Services

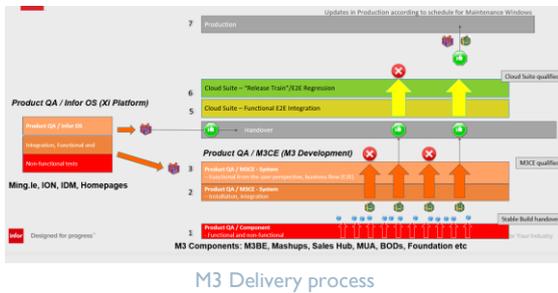
<sup>2</sup> Please refer to power point "Feature toggling and M3 CE update" for a description of these 3 groupings

functionality could stay on the same M3 version and patch level for years. This will no longer be the case. The customer will have to assess the implication of the new features enabled with toggles, and what the consequences are in the customer's environment. Previously the customer was in the driving seat for SW updates, now Infor will be in the driving seat for SW updates.

Releases are done each month. What will be in next month's release is published a week in advance. Disruptive releases are done twice a year. Features grouped in non-disruptive and disruptive is activated in the environment whether the customer want's it or not.



Changes in the M3 code is verified through automated testing in the M3 delivery process.



### Delivery pipeline and CQA (Maria Nordling)

Changes in the M3 code passing the tests is delivered to Central Quality Assurance. Changes in the M3 core is then tested end-to-end with the other applications in in the cloud suite superset.

TaaS (Testing as a Service) is used for the automated testing. TaaS (previously called Krypton) is an Infor tool that also is available to customers. This includes test scripts to use as templates.

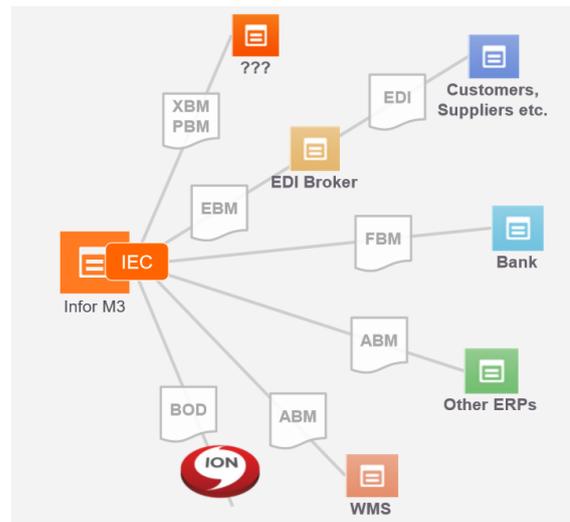
The delivery of software changes is following a strict process for testing and deploying. There are also

exception processes defined to allow for a speedier delivery of critical patches.

### M3 CE Integrations (Henrik Johansen)

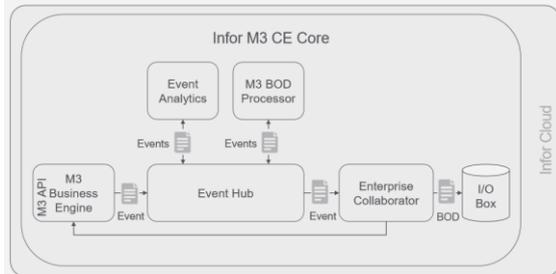
Integrations:

- Synchronous integration
- Asynchronous integration
- Data Lake
- EDI



## Asynchronous integration

In CE all integrations are using ION due to e.g. cloud security. ION is using BODs (Business Object Documents) for integration. Currently there are 49 inbound and 83 outbound BODs for M3 CE. For M3 13.4 there are 35 inbound and 69 outbound BODs.



Components for asynchronous integration

The use of BODs is the main asynchronous message strategy.

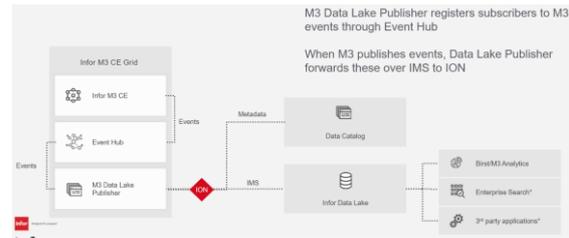
## Synchronous integration

For synchronous integration M3 APIs through ION is used. For M3 CE there are currently 5500+ transactions. For M3 13.4 there are 4500+ transactions.

- Configurable APIs through CMS100MI, MDBREADMI, EXPORTMI
- Bulk API
- IPS<sup>3</sup> – Build API based on interactive programs

## Data Lake

The customer defines which tables from M3 that shall also be stored in Data Lake. Changes in M3 tables are replicated to the Data Lake. Example; when an order line changes status, the order line is stored in the Data Lake with its new status, the order line with its previous status is still stored in the Data Lake. By this you may store e.g. all status changes of an order line if needed.



Data Lake integration

Currently there is ongoing work developing ETL for Data Lake. Data Warehouse will receive its data through the Data Lake in CE.

## Infor M3 Analytics for M3 Cloud Solution

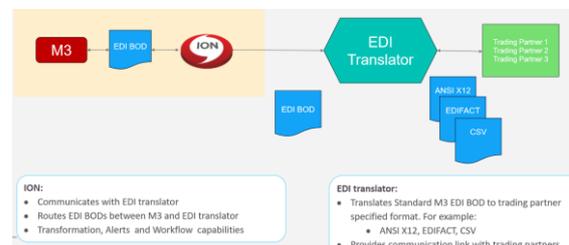


M3 analytics for M3 CE

## EDI

In CE, ION will add one application in the delivery path for EDIs. Current IEC/MEC mapping may be reused, however the XML needs to be wrapped in an ION BOD. Hence, the entity receiving EDIs must handle this wrapping compared to receiving the XML directly from IEC/MEC. Refer to separate paper “Infor M3 CE Core Implementation Guide for EBMs” (KB 2055544).

Future development of ION will allow IMS/Any message, non-BOD message. E.g. it will be possible to import flat files/CSV to IEC/MEC. Enterprise Connector (EC) must be installed on the server where flat files/CSV is retrieved.



M3 EDI Integration Framework

Refer also to KB 2023035 for “Infor M3 CE Core Implementation Guide for EDI messages”.

<sup>3</sup> Interactive Program Services (IPS)

## Coleman and General Extensions (Magnus Tallqvist)

Classic Java modifications will not be possible in M3 CE, nor in next M3 on-premise version. There are 5 alternatives:

- Move modifications into M3 configuration
- Extend M3 capability by external tools via connection to Infor OS
- Extend M3 by new UI
- Extend M3 by Machine Learning (ML)
- Extend M3 by Xtend M3

M3 Extensibility Whitepaper for further reading.

## Customer defined fields (CDF)

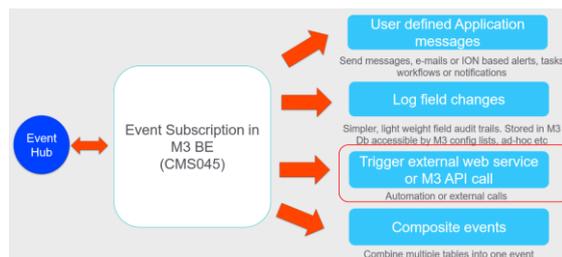
Customer defined fields are set up using tables CUGEX1, CUGEX2, CUGEX3. CUGEX fields are related to M3 tables, giving the possibility to extend a certain table, e.g. MITMAS, with customer defined data. Infor advice is to not use customer defined fields for transactional data, you may/will run into problems when the amount of data increases or number of concurrent calls to CUGEX exceeds some limit.

CDFs are accessible from:

- Configurable XML, enabling the use of CDFs in documents
- APIs to read CDFs from M3 (e.g. CMS100MI)
- APIs to update CDFs in M3 (CMS080)
- Custom lists CMS010

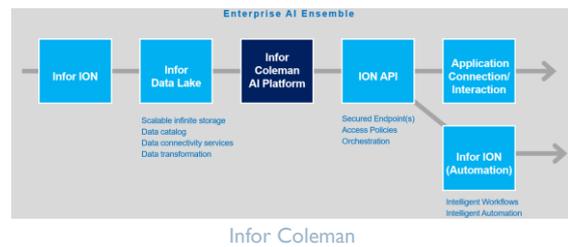
## Event based capabilities

All events (add, change, delete) in the database trigger events if subscribed to. Events can extend through Infor OS using CMS045. Hence, any event may trigger e.g. a workflow in Infor OS.



M3 Event Based Capabilities

## Coleman / AI



Infor Coleman

What can AI be used for? You need to decide:

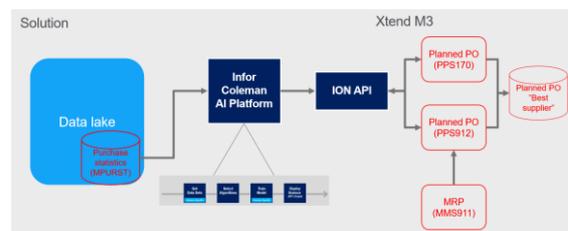
- What shall be solved? Which problem shall be solved? → One Machine Learning (ML) per problem.
- How shall this be related to M3?
- Which data shall be used?
- Which criteria / rules shall be used?

Infor looking into how ML can be used on areas like:

- Enhance MRP "decision"
- Sales price guidance
- Preventive maintenance
- ...

Example;

- Who is the best supplier for a specific order?
- Relation to M3; PPS912/PPS170
- Data source; Purchase Statistics (MPURST)
- Need for data laundry? Are the data sufficient?



M3 and ML – Enhance MRP decision

Criteria for best supplier may be:

- Lead time (pri 1)
- Quality (pri 2)
- Price (pri 3)

ML is comparison of data. You need to understand your data in order to apply ML.

- Lead time – How is lead time defined? True lead time from order sent to actual delivered or?
- Price – How is price defined? Actual invoiced price divided with approved received qty or?
- Quality – What is quality? Leadtime, Quantity, Quality, Invoice?

Live demo is targeted for Q1/Q2 2020.

Coleman/Al in this respect is setting up rules for the data you apply to the ML. As data evolve (in e.g. MPURST), new data is used into the ML rule-set defined by the customer.

### Xtend M3 (Erfan Yousefi)

The Xtend M3 will be a tool for Infor and certified partners initially. In a longer run, customers may be certified to utilize these tools as well (not decided yet).



#### M3 BE Extensions

Infor GDS (Global Delivery Service) will be responsible for signing off extensions for production environment. Extensions can be activated individually for different tenants (e.g. development, test, production).

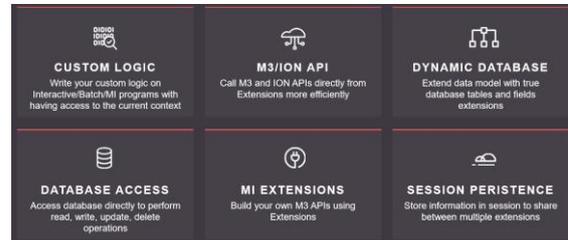


#### Process

Extension tool:

- Custom Logic; using exit points in the M3 code to build custom logic.
- M3/ION API; ability to call M3 and ION APIs from the extension i.e. the custom logic.
- Dynamic Database; extend data model with true database tables and fields extension.
- Database Access; access database to perform read, write, update, delete.

- MI Extensions; building own M3 APIs using extensions
- Session Persistence; store information in session to share between multiple extensions.



#### Highly Capable Tool

Some of the extensions are ready, some on roadmap.



#### Customization

First version of Xtend M3 was released on Wednesday 16th of October.

### Next Generation UX (Torbjorn Karlsson)

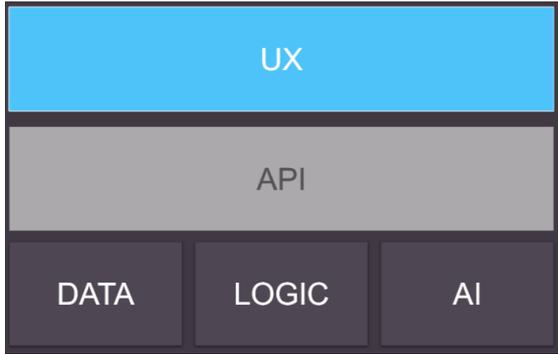
Next generation UX is stateless, responsive and “mashable”. H5 (stateful) will be around for a long time but might disappear in the future.

Next generation UX is addressing topics like:

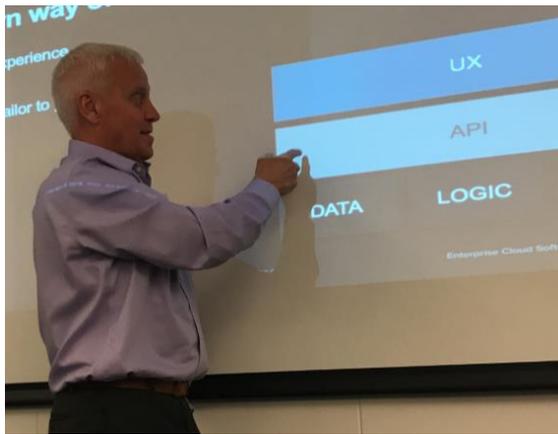
- Panel sequence
- Fields cannot be relocated inside a panel, nor be moved across panels
- List and details are separate panels
- Context switching with related options
- Low utilization of screen real estate
- Limited set of panel types



#### Some requirements



Flexible



Henrik Billgren enthusiastically describing that the new UX handles interaction with M3 data through APIs

The new UX will use APIs to collect data. ION API can also be used, collecting data from external sources. Metadata is considered for the various fields, the UX understand if it is a drop-down list for status, etc. Data from several APIs can be displayed in the same screen. Possible to have “lists-within-lists”.

The new UX can be tailored to industry, roles, processes, persons, etc. Will be the replacement for mash-ups.

Infor will create a starting point for the new UX, containing the basics. Customer can tailor to meet own needs.

Release of new UX is planned for spring 2020.

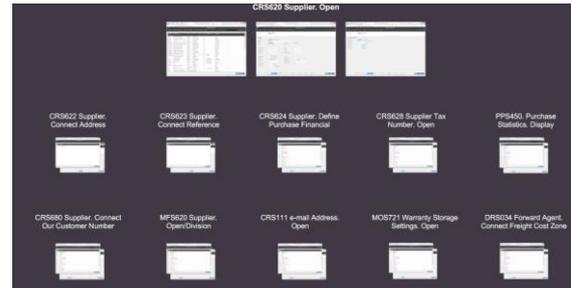
**New M3 User Experience**

**HIGHLIGHTS**

- New cloud architecture
- Stateless and decoupled
- Responsive design
- Role based processes across M3 functions
- Fully configurable down to field level
- Embedded UX design tooling
- Coexist with current H5 client

Designed for Progress

M3 user experience



Supplier applications; may be combined & tailored to needs

### User Group members' summary

Has Infor's goal of building the user group participants confidence and trust in "one version of the software, continuous delivery and the processes to deliver with the quality required in a multi-tenant cloud" been met?

Infor is committed to "cloud first". The delivery pipeline is currently focused and committed to this concept. The individual M3 customer must take Infor's "cloud first" into account when analyzing the company's way forward in relation to M3 and Infor OS.

Going to M3 CE from on-premise/single tenant cloud is an upgrade project and should be treated as an upgrade project. Integration with adjacent systems needs to be addressed and will certainly have implications on how the integrations are solved. Going to M3 CE may have big architectural implications for a customer.

M3 CE will also have consequences for the customers organization. Previously the customer was in the driving seat for SW updates, now Infor will be in the driving seat for SW updates. Activities that previously may have been performed by the customer's organization may in CE be done entirely by Infor's organization.

The benefit of going M3 CE is access to latest software capability at any time, new features and solutions available when they are released, and having the benefit of the security and redundancy of the CE solution. There is presently no guarantee that services delivered in CE will be available on-premise.

During the two days in Kista we have been given an understanding of the delivery process for M3 CE; from requirements and development, through testing and delivery, and how changes and updates are delivered in the CE environment. This has been communicated in an open and trustworthy manner. We would say that the goal of building confidence and trust has been met in terms of openness, focus, resources and processes. Do we think that processes and software are error free? Off course not. The delivery of software as a service (and error corrections) must be proven by Infor over time, day in and day out. Will the CE concept fit all customers? Probably not.

In the end of the day, the individual M3 customer must analyze and decide how to move forward; Is the optimal solution on-premise or CE? We think that CE is sensible way forward for many customer and customer types.

### User Group participants

Engelbert Fleischmann, German UG.

Patrick Verlee, UK UG

Pascale Mangenot, French UG.

Roland Kvilborn, Louise Nilsson, Christer

Dahlkvist, Metta Lundquist, Jenny Strand, Swedish UG.

Anne Berit Sandvik, Ivar Oldervik, Norwegian UG

### Infor participants

Toni Kennedy, Henrik Billgren, Erik Svenson,

Mathias Blomkvist, Maria Nordling, Henrik

Johansen, Magnus Tallqvist, Erfan Yousefi, Torbjorn

Karlsson

### Infor presentations

1. Welcome & M3 the bigger picture (*GAM3 191017.pdf*)
2. Our way of working (*M3 Cloud edition – Our Way of Working 20191017.pdf*)
3. Delivery pipeline and CQA (*CQA and Delivery Pipeline*)
4. M3 CE Integrations (*Modernize your M3 integrations USRG 191017\_Final.pdf*)
5. Coleman & General Extensions (*M3 CE Extensions.pdf*)
6. Xtend M3 (*Extensibility – Show 'n tell – User Group.pdf*)
7. Next Generation UX (*M3 UX Stockholm October 18.pdf*)
8. Summary (*M3 Wrapup.pdf*)